ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA (ESCWA)

FOOD SECURITY AND CONFLICT IN THE ESCWA REGION

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Introduction

Food security is an economic and political challenge for the countries of the ESCWA region.[1] In recent years, the region's cereal import share as a percentage of total consumption has been regularly between 40 and 50 per cent reaching up to 70 per cent in some cases, such as Iraq and Yemen, and even more in the case of Lebanon and Palestine.[2] The regional food import bill is close to 5 per cent of national income. Given scarce freshwater resources, an arid climate and an increasing threat from climate change, the region as a whole is at a comparative disadvantage in terms of agricultural production. Indeed, most of the countries of this region continue to be vulnerable to weather and commodity price shocks owing to their limited economic resource base combined with low productivity levels. Moreover, a number of factors fail to offset the ESCWA region's weak standing on the supply side by a strong position on international markets from the demand side. These include limited productive economic diversification; narrow export profiles; continuing domestic and regional instability; low levels of regional economic integration; limited transnational political cooperation initiatives; rapid growth in labour force participation in excess of population growth; low rates of job creation, thereby resulting in high unemployment rates; high income inequalities; and substantial pockets of poverty. All these factors suggest that this dependence on imports will remain at current levels or even increase in the future.

In addition, world cereal markets are thin;[3] and exports represent a small share of global production, which is dominated by six countries making access to cereals heavily vulnerable to their national policies.[4]

In the past two decades, a significant number of studies have explored aspects of food security. Many have been recently published analysing the effects of the triple F crisis (food, fuel and financial crises) on poverty and food security. Other studies have focused specifically on Arab countries and two threads of analyses can be identified in relation to food security, namely: (a) the growth-promoting thread led by the World Bank; and (b) the human development thread promoted by the United Nations Development Programme (UNDP).

However, another important aspect that seems to receive limited attention is the presence of conflict and its relation with food security in the region. This region is host to various national and international civil and military conflicts and violence. In recent years, five member countries and territories have faced episodes of armed conflict and political violence that have directly affected food security, namely: Iraq, Lebanon, Palestine, the Sudan and Yemen. The situation can be particularly severe in Palestine, the Sudan and Yemen, where food insecurity is at times systemic. Iraq has experienced sporadic albeit severe problems

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[1] The ESCWA region comprises the following countries and territories: Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates and Yemen.

[2] In the region, grains are the most important source of energy, proteins and vitamin B complex. Cereal consumption is relatively higher in poor households across the region. Wheat is the most widely consumed type of grain, except for the Sudan where sorghum prevails. In the Mashreq region, rice and maize are the second most widely consumed grains; and maize and millet in Yemen and Sudan. None of these countries has attained self-sufficiency in these grains. The highest imports are in wheat, produced in moderate climates and exported primarily by industrial nations, followed by barley and maize.

[3] International agricultural markets tend to be relatively thin and inefficient owing to a combined effect of heavily subsidized output-based policies and tariff protection in OECD member countries, and restrictive trade policies in developing countries. The final result is less efficient and artificially low-priced products originating from the OECD region at the expense of more potentially efficient production and artificially high prices in the latter. In line with this, ESCWA member countries propend for trade policies that are more restrictive in agriculture than in manufacturing.

[4] According to FAO estimates, only 18 per cent of total wheat production and 6 per cent of total rice production are exported, thereby implying that small changes in one of the main exporters' trade policies would likely affect world trade flows. In fact, in 2008, some major exporting countries pressured by fear in their public opinions, banned exports outright, which accelerated food price hikes. Such price surge had a direct effect on overall CPI and therefore on the inflation of the ESCWA economies characterized by more limited public intervention (i.e. consumer subsidies) and the fiscal space of those having in place large social assistance programmes.

mainly in the aftermath of the conflict in that country. Lebanon was confronted with a short-lived episode of food insecurity in 2006 during Israel's war on that country. This report focuses in particular on countries and territories where food insecurity is systemic.

Conflict has a direct and indirect effect, on food security, undermining it through various channels. Direct effects include razing farm land, spreading cluster bombs and mines, killing livestock, destroying machinery and blockading access to markets. Conflict disrupts access to markets by both consumers and producers. It discourages investment into agricultural modernization, thereby reducing the availability of food. It strips government of tax revenues that prevent the establishment of social safety nets. Furthermore, conflict deteriorates the environment for the utilization of food. The political and economic radiation of conflict beyond its geographic borders is an important indirect effect as well, which is manifested in refugee migration, the deterioration of regional investment climates and the crowding out of pro-growth policy priorities that would otherwise receive more attention. Worldwide, most of the serious food emergencies declared before the outbreak of the 3F crisis were due to conflict.

Theoretically, food insecurity can be used as an indicator of access to basic resources, and its relationship with conflict qualify for a bi-directional interaction, meaning that food insecurity is both a source and a result of conflict. Historically, riots occur as a consequence of food shortages. For example, discontent in Paris over rising food prices and the inadequate Government response seems to have played a major role in sparking the French Revolution.[5] Moreover, food insecurity may have contributed to triggering the 1994 genocide in Rwanda and might have played a role at the onset of the Darfur crisis.[6] The United Nations Secretary-General's progress report on the prevention of armed conflicts states that "tackling food insecurity and related problems of…resource scarcity can do much to stabilize a fragile situation". However, the empirical foundation for a robust relationship between food insecurity and conflict is merely indicative and several analyses suggest that that resource scarcity tends to contribute to the outbreak of conflict if other exogenous conflict-promoting factors are at work.[7]

In practice, however, conflict is mostly a source of food insecurity, particularly in the ESCWA region, and the latter can act as a "threat multiplier" by adding pressure to people who already suffer from problems of underdevelopment, marginalization, repression or conflict. The food riots that many Arab countries witnessed during the 2007-2008 food-price crises and even more recently can be seen through this lens, although the general causality usually goes from conflict to food insecurity. Consequently, while food insecurity has historically not been necessarily a major source of conflict in the region, providing greater food security could well be a source of conflict mitigation. This report seeks to shed light on this core issue.

Food insecurity and conflict are often rural phenomena. Most political violence in Arab countries is directed against the State. Conflict in the Arab world is generally the result of unfinished dialectics of post-independence development. In other words, this rationale incorporates three stages, namely: (a) stage one, colonial rule, which is characterized by an alliance between colonial rulers and local, mostly urban elites; (b) stage two, independence, which sees the replacement by former elites by a new political class, which is often not representative either; and (c) stage three, national consolidation, which ideally sees the reconciliation between former elites, their successors and the citizenry in favour of the common cause of State and institution-building. Many countries in the region are caught somewhere between stage two and three. As a result, most political and economic opportunities are located in urban areas and most of the grievance, including food insecurity, originates in the countryside. Hence, promoting food security contributes to reducing grievances and increases the opportunity costs from engaging in conflict activity. At the same time, the promotion of food security makes governments more inclusive. Moreover, as food security should not be promoted, at least in the long run, by redistributing an existing pie but through the

[5] Messer, Cohen and Simmons (2001).

[6] Uvin (1996), as cited in Messer, Cohen and Simmons (2001).

[7] Buhaug, Gleditsch and Theisen (2008).

creation of new economic opportunities, traditional political and economic cleavages could be successfully reduced.

The dynamics between conflict and food insecurity in the ESCWA region are multifaceted. According to the World Food Programme (WFP) countries website, food security in Palestine is mostly challenged by social instability, movement restrictions and limited access to essential services and resources.[8] In Iraq, the problems are insecurity, internal displacement, constrained access to food and poor infrastructure. Ongoing conflict, low levels of basic infrastructures, internal displacement and adverse environmental conditions constitute the main challenges in the Sudan. Similarly, Yemen is confronted with poverty, social instability, refugees, internal displacement and environmental degradation.

This report argues that, up to a certain extent, the conflict-affected countries and territories of the ESCWA region can promote food security nationally. What the region is in need of, however, is greater regional cooperation for three reasons, namely: (a) conflict-affected countries and territories do not have the fiscal space and public administrative capacity needed to finance and introduce food security programmes; (b) prevailing political constraints prevent existing cleavages between ruling elites and disenfranchised factions within the society from being easily overcome; and (c) the potential benefits from investments into better food security are greater when taking advantage of regional cooperation, given that the numerous threats to food security carry a regional dimension and, therefore, require a regional solution in line with the subsidiarity principle.

The idea of breaking the vicious cycle of conflict and food insecurity through regional investment in economic development is straightforward. The nature of conflict to enforce the redistribution of existing economic opportunities is a negative sum game, while the nature of regional investment cooperation to create new economic capacities is a positive one. The evolution of markets will help change the economic calculus of engaging in conflict. Economic development as an alternative to the armed redistribution of economic assets increases the opportunity cost of maintaining conflict and makes the substitution of conflict for the peaceful pursuit of socio-economic development more attractive.

This report argues that the nexus between conflict and food insecurity can be broken through the provision of new economic opportunities. The generation of new economic opportunities must come from within the region. However, the ESCWA region has among the lowest levels of regional integration in the world. In addition to conflict, this can be attributed to the absence of regional investment into regional market development. The region lacks a favourable business climate, both physically and institutionally. Physically, it lacks logistic infrastructure in order to connect markets. Institutionally, it lacks the common policy framework that would reduce transaction costs.

In providing new economic capabilities, regional investments focusing on rural poverty and development are particularly important. Many battle fields are located in rural communities and, moreover, rural populations constitute a major source for the recruitment of fighters. Infrastructure projects and social safety nets that target specifically rural communities are likely to pay a high food security and peace dividend. Areas for such investments exist in regionally funded supranational development programmes that finance agricultural modernization projects, trade integration and new financial instruments.

Another important question then emerges, namely, why regional cooperation in the ESCWA region remains so modest. Several answers are again appropriate. First, the region has a collective memory of failed transnational initiatives in the form of the reunification of Egypt and the Syrian Arab Republic (as the then United Arab Republic); the short-lived union between Iraq and Jordan; or the idea of the Bagdad Pact, which were all motivated by ideology and outside interventions and not by actual economic constraints and internal initiatives. Secondly, economic geography is not necessarily promoting cooperation within the

[8] See the World Food Programme (WFP) website at: www.wfp.org/countries.

ESCWA region as North Africa is increasingly orienting itself towards Europe, the Levant towards Turkey, and the Gulf towards East Asia. Moreover, many political leaders may simply fear a loss of political power when subordinating themselves to a supranational platform.

In the light of these constraints, the region is thus in need of external stimuli that can help to bridge political cleavages. As opposed to earlier integration experiences, it is necessary to motivate regional cooperation endeavours along actual economic needs and opportunities, rather than from ideological objective functions. In this regard, addressing the issue of food security promises considerable regional political and economic returns, which are unmatched by other socio-economic area. This is particularly so given that food security is such a fundamental public good without which human, social and economic development is simply impossible. Eventually, all economic development models implicitly assume a green revolution that allows for the transition from a predominantly agricultural and rent-extracting economy to one driven by capital accumulation. Additionally, food security stands at the heart of several other pressing issues in the ESCWA region, including the adaptation needs to climate change, the management of shared and scarce water resources, the exploitation of untapped agricultural development potentials and, last but not least, the easing of existing conflict pressure.

Easing existing conflict pressure is the best that one can hope for when increasing food security. It is obviously illusionary to believe that food security can resolve existing conflicts in the Arab region. However, food security can shift conflict from a violent level to one of dialogue. This will only be possible if the opportunity costs of engaging in violence increase, which the prospects of increased food security would do. Moreover, once food security is established, other opportunities are more likely to follow. Given that the reverse does not hold true, regional investments into food security must have priority. Once the participants involved in conflict realize that resorting to violence only aggravates livelihoods, support for violent conflict will be dampened. The willingness to participate in violence is particularly high when individuals have nothing to lose. Within that conceptual framework and idea, this report seeks to examine the relationship between food insecurity, conflict and regional cooperation.

Would the region have an incentive to engage in regional cooperation? Some obstacles exist. The first is that regional cooperation may be perceived by rich countries as a negative sum game. Given the extreme disparities in national and personal income, richer nations may feel reluctant to invest in food security. If mostly poorer countries benefit directly, richer nations may conceive such a public good simply as a net transfer. The benefits from investing in food security are not immediately obvious for the wealthy economies. These benefits are, moreover, difficult to quantify, especially when they occur in a comparatively abstract form, such as a peace dividend. The second obstacle is that many Arab economies are in transnational conflict among themselves owing to border disputes, ideological differences or different alliances with third parties. Finally, cooperation between a conflict country and a non-conflict country is discouraged by the very presence of conflict, which puts a veil of uncertainty over every cooperation endeavour.

The prospects for successful regional cooperation to increase food insecurity and to shift conflict away from violence to dialogue and diplomacy are therefore highly uncertain. This does not mean that this idea should not be pursued in the first place, given the lack of serious alternatives to cooperation in the long term.

The ESCWA region shares many common threats and future challenges, including climate change, spillovers from conflict, depletion of natural resources, migration, desertification and economic modernization. Many of these problems require a regional solution to be efficient. First, regional solutions to regional problems will guarantee that the region has the ownership over the solution. Secondly, the region's voices, concerns and problem-solving ideas are more clearly heard in the development of the solutions. Thirdly, institutional capacity is built in the region. Indeed, the principle of subsidiarity stands for developing ownership, inclusiveness and problem-solving capacity at the regional level and for regional problems. The alternative to subsidiarity-driven approaches to the region's various challenges is individual ESCWA member countries cooperating with international organizations and third parties bilaterally. Such

solutions are less efficient, suffer from non-inclusiveness and limit the region's institutional capacity development potential.

This report is divided into four chapters. Chapter I discusses the concept of food insecurity and how it applies to the ESCWA region. Chapter II specifically tries to assess the food security situation in the conflict-affected countries and territories of the ESCWA region and discusses their transmission mechanism between conflict and food insecurity. Chapter III analyses sectoral and country-level policies and explores regional policy options that could help to reduce food insecurity in the region.[9] The concluding chapter provides a summary of the main findings and recommendations for policy actions in the ESCWA region.

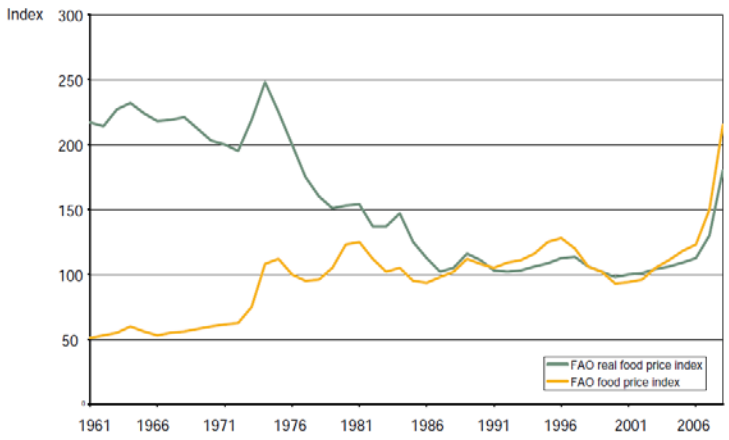
[9] Information and analyses included in chapters II and III have benefited from an ad hoc questionnaire that ESCWA prepared and circulated throughout the region in March and April 2010.

I. FOOD SECURITY ASSESSMENT IN THE ESCWA REGION

A. FOOD PRICE AND FOOD CRISIS

Historically, world yields and outputs have risen causing an overall drop in real food prices, particularly in the period until the mid-1980s. This represented a substantial improvement in purchasing power for households until 2000 when prices increased, mainly due to the rise in the price of cereals. This rise was the result of an increasing gap between global demand and supply, recently combined with exceptionally low levels of storage, crop failures in major exporting countries, followed by panic-driven export restrictions.[10]

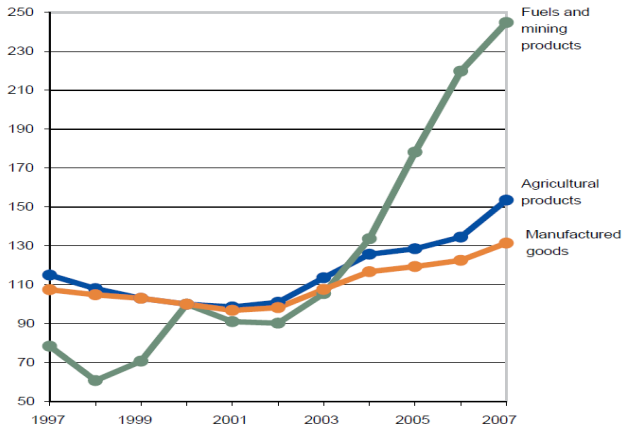
Figure 1. Index of food prices, 1961-2008



Source: FAO (2008).

Figure 2 shows that since 2000, there has been a widening gap between the unit values of manufactured goods and agricultural products, thereby implying that more manufactured goods will have to be exported to import sufficient food. If this trend continues, this could therefore provide an incentive for an increased focus on export-oriented agriculture for those countries that possess comparative advantages in this sector.

Figure 2. Export unit values for selected groups of goods, 1997-2007

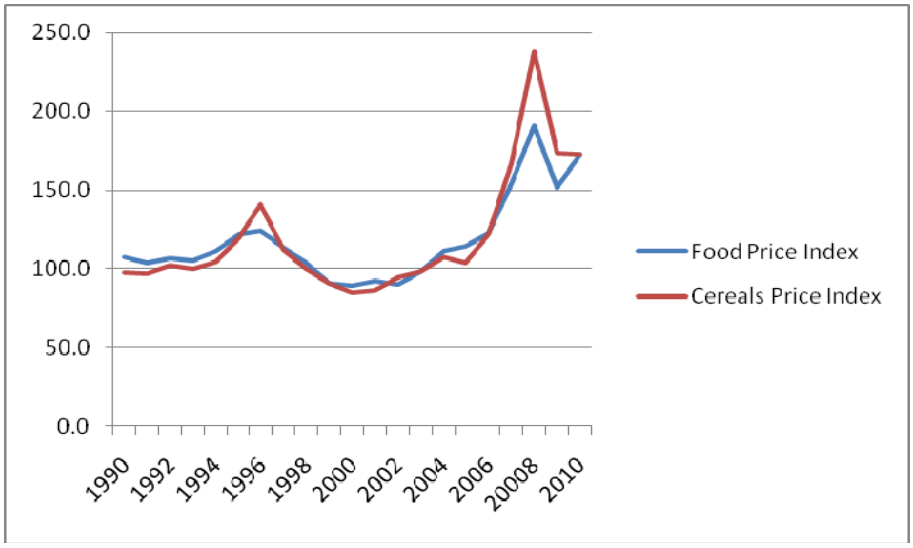


Source: WTO (2008).

[10] At high prices, when stocks are minimal, the cereal consumption response to price tends to be inelastic due to rigidity in demand, which in turn depends on the inherent caloric intake and dietary habits.

The recent food price rise has also been partly caused by the steep oil price hike. Regression results show that the food price index and the oil price index have been highly correlated since 2000 and particularly when oil prices are above a certain level (usually above $60 per barrel).[11] Arguably, this is a consequence of the impact of oil prices on the cost of fertilizers and on the increasingly energy-intensive character of modern agricultural production that in the ESCWA region derives from the extensive use of water pumps. In addition, increases in the international trade of food have progressively swollen the share of food prices to transport costs.

Figure 3. Nominal price indices for selected groups of goods, 2000-2010



Source: FAO (2010).

In general, a two-pronged policy response has been used to cope with the immediate impact of the price spike. The first policy response has been macroeconomic aimed at stabilizing domestic food prices through tax cuts and the use of food stocks, subsidies and export restrictions. The second response has focused on social policy and includes a variety of transfers and human development programmes aimed at mitigating the adverse impact on the poor. Together, as described in chapter III of this report, these two approaches have characterized the prevailing types of policy interventions in the ESCWA region. A third set of policies addresses the longer term situation by attempting to boost domestic food production. This last set has been more sporadically applied across the region, with some countries not taking any real long-term action in this direction.

B. THE CONCEPT OF FOOD SECURITY

The right to food is enshrined in the 1948 Universal Declaration of Human Rights and in the 1966 International Covenant on Economic, Social and Cultural Rights. Moreover, the World Food Summit in Rome in 1996 concluded:[12] "Food security exists when all people, at all times, have physical and economic

[11] According to the International Atomic Energy Agency (IAEA), the price of crude oil will average $100 per barrel at constant 2007 prices over the period 2008-2015, and rise to $120 in 2030. This trend is likely to reflect on world food prices.

[12] Other guidelines that provide a frame of reference in this area can be found in the Comprehensive Framework of Action (CFA) adopted by the High-Level Task Force on the Global Food Security Crisis (HLTF); the Declaration of the High-level Conference on World Food Security (3-5 June 2008), the Declaration of the World Summit on Food Security (16-18 November 2009).

access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life".[13]

The World Health Organization (WHO) also notes that food security is built on the following three pillars:[14] (a) food availability, that is sufficient quantities of food available on a consistent basis; (b) food access, having sufficient resources to obtain appropriate foods for a nutritious diet; and (c) food use, which is the appropriate use based on knowledge of basic nutrition and care, as well as access to adequate water and sanitation.

The Food and Agriculture Organization (FAO) reports a fourth element characterizing food security, namely, food stability whereby, in order to be food secure, a population, household or individual must have access to adequate food at all times. They should not risk losing access as a consequence of sudden shocks, such as economic or climatic crises, or such cyclical events as agricultural seasons. Stability is thus needed for both availability and access.

WHO reported that undernutrition is the single greatest threat to health worldwide and bears 2 to 10 times higher risk of death compared to normal birth weight children. Undernutrition slows economic growth and perpetuates poverty through three routes, namely: (a) direct losses in productivity owing to poor physical and cognitive functions;[15] (b) indirect losses owing to poor schooling; and (c) budget burden for households and States owing to increased health-care costs. Productivity losses at the individual level are estimated at more than 10 per cent of lifetime earnings and losses to GDP are on average around 2-3 per cent.[16] Improving nutrition is therefore primarily an issue of economics as well as of welfare and social justice. Since human health is a central determinant of human productivity and income, one can easily infer that undernutrition is one of the greatest challenges for poverty reduction and for the achievement of other MDGs.

The 1996 Rome summit highlighted that "a peaceful, stable and enabling political, social and economic environment is the essential foundation which will enable States to give adequate priority to food security and poverty eradication. Democracy, promotion and protection of all human rights and fundamental freedoms, including the right to development, and the full and equal participation of men and women are essential for achieving sustainable food security for all."

However, a "peaceful, stable and enabling political, social and economic environment" is under threat in such ESCWA members as Iraq, Lebanon, Palestine, the Sudan and Yemen. Many national conflicts have regional spillover potential. Conflicts undermine food security by, among others, impeding orderly market interactions, increasing prices, damaging agricultural livelihoods and causing social safety nets to collapse.

Democracy, promotion and protection of all human rights and fundamental freedoms, including the right to development and wellbeing, and the full and equal participation of men and women are complex and interrelated issues. The relationship between democracy and development has a long and controversial tradition in political-economic philosophy. The ideal state of democracy, in particular, is unclear. Is it outcome or process oriented? For Aristotle, it is "manifest that the best political community is formed by citizens of the middle class, and that those States are likely to be well administered in which the middle class is large".[17] Least controversially, democratic governance can thus be related to a public administration that

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[13] See www.fao.org/wfs/index_en.htm.

[14] See www.who.int/trade/glossary/story028/en/.

[15] See Smith, Alderman and Aduayom (2005). Moreover, low birth weight could reduce an individual's IQ by 5 per cent; stunting may reduce it by 5-11 per cent; iron deficiency by 8 per cent; and iodine deficiency by 10-15 per cent. See Grantham-McGregor, Fernald and Sethurahman (1999).

[16] The World Bank (2006).

[17] See www.fordham.edu/halsall/ancient/Aristotlepoliticspolis.html.

promotes equality of opportunity and social mobility for men and women. Sen (1981) elaborates on this point and argues that democracies inherently tend to suffer less from hunger.

The importance of equality of opportunities for food security becomes clear if one compares two hypothetical societies with identical per capita incomes, but different income distributions. The unequal society will be much more vulnerable to food price shocks than the equal one, simply because it has more poverty. Peters and Shapouri (1997) note: "Lack of access to food due to inadequate purchasing power has been identified as the prime cause of food insecurity. Even in countries where national per capita income is relatively high, including some in Southeast Asia and Latin America, the inequality in the distribution of income causes a substantial proportion of their populations to live in poverty and suffer from problems associated with chronic undernutrition." This shows food insecurity to be a manifestation of the social and political construct.

With regards to gender equality, the empowerment of women has favourable effects on food security. Gender equality often begins with a reduction of fertility rates, which increases disposable household income. Lower fertility rates also open labour markets for women, which help women gain greater economic autonomy and more voice in household decisions. Both these factors contribute to more food security. Higher incomes allow for more food purchases and greater female empowerment for a more efficient allocation of household income as women, on average, tend to be less inclined towards unproductive consumption, such as alcohol and tobacco.

The International Fund for Agricultural Development (IFAD) accordingly notes that there is an important link between Goal 3 of the Millennium Development Goals (MDGs), which is the promotion of gender equality and the empowerment of women, and all other MDGs.[18] Specifically, IFAD notes that rural women "give high priority to basic needs such as health services, water, education and infrastructure when consulted during planning of development initiatives. IFAD recognizes that lack of, or limited access to, essential services and infrastructure is a major obstacle to women's advancement because it prevents them from participating in the mainstream of economic development and community life."[19]

Lastly, it is important to note that there is a difference between food insecurity and a food crisis. The ESCWA region has experienced both. A food crisis is characterized by a drop in supply – that is, deteriorating agricultural capacities – as a result of mismanagement, climate change, water scarcity, a natural disaster or armed conflict. Food insecurity, on the other hand, is characterized by a demand that outpaces current supply. Thus a population may be food insecure in the absence of a food crisis, food secure despite a food crisis, or food insecure because of a food crisis.

C. FOOD AVAILABILITY

The ESCWA region's agricultural capacity lags increasingly behind its consumption needs. In terms of cereal consumption, the ESCWA region's import share increased from 18.3 per cent in the 1960s to 44.1 per cent in the 2000s. In the Gulf Cooperation Council (GCC) sub-region, the numbers are 19.8 per cent and 69 per cent, respectively. For the more diversified economies, cereal imports increased from 18 per cent in the 1960s to more than 33 per cent in the 2000s. In the conflict-affected countries and territories of Iraq, Lebanon, Palestine, the Sudan and Yemen, the cereal import share was 11.5 per cent in the 1960s and 50.6 per cent in the 2000s.

[18] The Millennium Development Goals are as follows: Goal 1 – Eradicate extreme poverty and hunger; Goal 2 – Achieve universal primary education; Goal 3 – Promote gender equality and empower women; Goal 4 – Reduce child mortality; Goal 5 – Improve maternal health; Goal 6 – Combat HIV/AIDS, malaria and other diseases; Goal 7 – Ensure environmental sustainability; and Goal 8 – Develop a global partnership for development.

[19] See www.ifad.org/gender/.

TABLE 1. CEREAL IMPORT SHARES AS A PERCENTAGE OF TOTAL CONSUMPTION, 1960-2007

	More diversified economies	GCC subregion	Conflict-affected countries	ESCWA region
1960s	17.9	19.8	11.5	18.3
1970s	26.5	46.4	25.7	30.4
1980s	42.5	69.9	50.0	51.2
1990s	35.1	54.8	41.4	40.5
2000-2007	33.9	69.0	50.6	44.1

Source: FAOSTAT 2010.

Similarly, all ESCWA member countries have a trade deficit in food items, which, in this context, comprise the commodities in Standard Industrial Trade Classification (SITC) "sections 0 (food and live animals), 1 (beverages and tobacco), and 4 (animal and vegetable oils and fats) and SITC division 22 (oil seeds, oil nuts, and oil kernels".[20] The ESCWA average of the food trade deficit is almost 5 per cent of GDP (see table 2).

TABLE 2. AVERAGE AGRICULTURAL CAPACITY INDICATORS IN THE ESCWA REGION, 2003-2007

Country/territory	Food import share (*% of GDP*)	Cereal yield (*kg per ha*)	Renewable Freshwater per capita (m^3)	Irrigation (*% of crop land*)	Fertilizer use (*100 mg per hectare*)	Cereal Land per capita (*ha*)
Bahrain	4.9	..	5	67	3,678	..
Egypt	4.8	7,589	23	100	6,707	0.037
Iraq	..	957	..	59	..	..
Jordan	11.2	1,304	119	28	7,295	0.011
Kuwait	..	2,604	..	72	10,631	0.001
Lebanon	6.8	2,619	1,172	31	1,467	0.016
Oman	3.3	3,283	514	90	3,424	0.002
Palestine	..	1,937	..	7	..	0.010
Qatar	1.7	3,731	45	..	10,500	0.002
Saudi Arabia	2.8	4,459	99	43	1,060	0.029
The Sudan	2.4	668	742	10	36	0.221
Syrian Arab Republic	5.4	1,780	341	24	857	0.167
United Arab Emirates	4.4	2,100	34	30	5,531	0.000
Yemen	8.3	831	94	33	51	0.033
Conflict-affected countries	4.5	685	513	18	41	0.147
More diversified economies	5.3	4,484	129	78	5,478	0.059
GCC sub-region	3.1	4,446	127	47	2,566	0.021
ESCWA region	4.7	2,302	246	55	1,876	0.080
World	2.0	3,292	6,480	26	1,924	0.106

Source: ESCWA calculations based on the World Bank Development Indicator (WDI) database (2009).

Notes: Cereal yield is weighted by total available cereal cultivated land.

Two dots (..) indicate that data are not available.

[20] World Bank Development Indicator (WDI) database (2009).

The ratio of total exports to food imports is an indicator of a nation's ability to finance its food imports from its total export revenues. This indicator is more relevant for food security analysis than just the net food trade position. The latter informs only whether a country is a net food importer or exporter, but does not reflect the relative cost of access to world food supply in each country and, therefore, how vulnerable it could be to changes in international food prices and availability. A country or territory that is a net food exporter but whose total food bill takes a large percentage of total exports is likely to be more vulnerable than a counterpart that is a substantial net food importer but whose food bill takes only a small percentage of its total exports. Within that context, for example, Palestine and Lebanon have food bills of about 90 per cent and 40 per cent of total exports, respectively.

TABLE 3. FOOD IMPORTS AND PRODUCTION

ESCWA members	Total export/food imports	Food production per capita
Bahrain	..	..
Egypt	6.9	199
Iraq	..	..
Jordan	4.7	120
Kuwait	25.4	55
Lebanon	2.4	258
Oman	..	..
Palestine	1.1	135
Qatar	..	..
Saudi Arabia	5.5	104
The Sudan	5.5	148
Syrian Arab Republic	8.9	237
United Arab Emirates	17.2	114
Yemen	4.9	44
World average	11.3	233

Source: Breisinger et al. (2010), based on Yu et al. (2009).

Two dots (..) indicate that data are not available.

A major reason for the food import dependency in the ESCWA region is its geography, topography and climate. As table 2 shows, the region's poor endowment of agriculturally productive land coincides with its water scarcity. All ESCWA member countries have substantially less cubic metres of renewable freshwater resources per capita available than the world average.

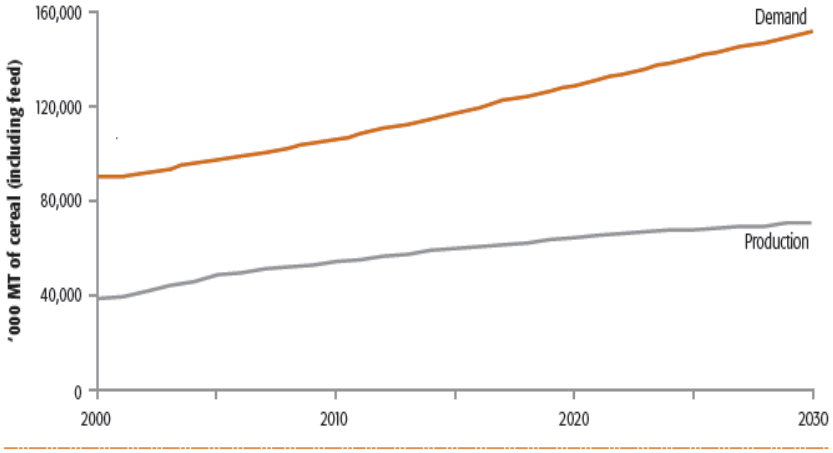
Hence, it is unsurprising that in all ESCWA member countries, with the exception of the Sudan and the Syrian Arab Republic, cereal-cultivated land per capita is less than the population-weighted world average. On average, cereal-cultivated land per capita is roughly one-quarter less than the world average.

Econometric models applied to the Arab region show that food demand is projected to further outpace supply, making these countries more dependent on food imports and therefore more vulnerable to food price shocks.[21] Food production in the region tends to oscillate around low levels owing to the high share of rain-fed agriculture in such countries as the Sudan and Yemen combined with the prevalence of dryland and arid farming systems. As a result, countries have been witnessing a steady decline in agricultural share of GDP over the last decades combined with erratic trends. Total cereal demand in the wider Arab region is projected to increase by over 70 per cent between 2000 and 2030. Based on a model set up by the

[21] Two models have been developed, namely, by IFPRI (2008) and by FAO (2008). Both provide similar results for the region with the notable exception of Sudan.

International Food Policy Research Institute (IFPRI), even if cereal production can potentially increase by more than 80 per cent provided that more investment are made available, the total amount of imported cereal is expected to rise by 55 per cent. Forecasts for Egypt alone are around 137 per cent, followed by the Syrian Arab Republic and the Gulf subregion. These results are mainly driven by trends in population growth. In fact, population growth trends have leveled with food production growth trends since the 1990s.

Figure 4. Cereal demand and supply in Arab countries



Sources: IFPRI (2008); and the World Bank (2009).

The underlying causes of such a divide can be attributed to low levels of productivity which are explained by the aridity of the climate;[22] high variability of precipitations; risk-aversion to the adoption of new cultivars, methods and technologies; and resource degradation. In addition, the region generally possesses low stocks of human capital in comparison with other regions at similar income levels such as Latin America where labour productivity is significantly higher. While more favourable natural conditions for agricultural production translate into higher cereal yields, often it is mostly access to technology, such as irrigation systems and fertilizer use that make the biggest difference in agricultural productivity. Two groups of countries in the ESCWA region, namely, the more diversified economies and the GCC sub-region, already employ irrigation systems and fertilizers well above the world average (see table 2). Cereal yields in these countries are also above the world average, underscoring the fact that the ESCWA region's biggest constraints, besides it natural limitations, are the unused production potential of some conflict-affected countries due to their low levels of productivity and untapped availability of arable land.

The situation of the conflict-affected countries and territories is alarming. Their cereal yields lag substantially behind the rest of the region. Countries that are not affected by conflict have instead more opportunities to offset the disadvantages delivered by their natural environment by access to better technology and input factors (irrigation systems, seeds, pesticides and fertilizers) and human capital.

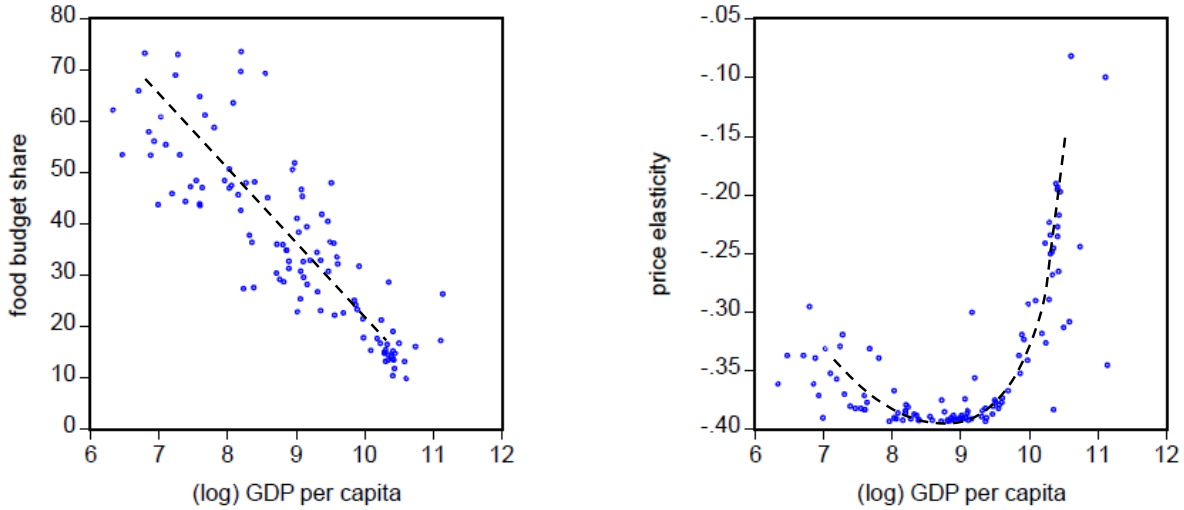
In summary, food availability in the region is strongly influenced by both natural environment and human action. From the nature endowment perspective, the biggest problem is availability of arable land combined with water scarcity. Even though some countries make strong use of fertilizers and water irrigation, technology alone cannot likely close the gap between production and consumption. However, technology transfer and greater investment into agricultural modernization could drastically narrow such a gap.

[22] Reportedly, drifting sands covered grazing areas, starving livestock and hindering villagers' livelihoods. This may increase migration patterns and encroaching on agricultural areas with consequent potential increase in tensions between tribes and communities.

D. FOOD ACCESS

Food access captures the demand side. Cross-country analysis shows that income and food consumption are highly correlated. On average, food budget shares in developing countries are normally in the range of 50-70 per cent for the poor;[23] and the average income elasticity of food demand is around 0.7, thereby meaning that 70 per cent of an additional income in a given year would be spent on food.[24] Many developing countries in the ESCWA region are no exception to this trend. While the price elasticity of demand has a non-linear trend, it is much higher in absolute terms for low income levels. For instance, in Iraq the demand elasticity of income is estimated to be 1.4 for the poorest decile of the population, 0.9 for the second lowest decile, and only 0.3 for the top decile (COSIT, FAO, UNICEF, WFP, 2010). This means that the higher the food price and the food consumption share, the higher the price elasticity of demand compared to income, the higher will be the decline in purchasing power due to a raise in food prices.[25]

Figure 5. Cross-country expenditures on food by income and price elasticity, 2005-2008



Source: Based on Seale, Regimi and Bernstein (2003); Dessus, Herrera and de Hoyos (2008); and the World Bank (2008).

The spike in food prices in 2008 showed clear links between higher prices, lower caloric intake, lower quality diet, and increase in child malnutrition. There is clear evidence that the major damage caused by malnutrition takes place in the womb and during the first two years of life, causing lower intelligence and reduced physical capacity, which in turn reduce productivity and perpetuate poverty.

Common indicators of a society's access to food are the prevalence rate of undernourishment, children mortality rate and malnutrition. The Global Hunger Index (GHI), compiled by IFPRI, conceptualizes hunger as an equally weighted average of these three percentage values. Table 4 lists the values of the various indicators for available ESCWA member countries from the 2009 Global Hunger Report. According to the table, Yemen and the Sudan clearly suffer from food insecurity.

[23] Food expenditures are particularly high in Yemen and expenditures for cereals alone can reach about 35 per cent of household expenditures. IFPRI (2010). Qat expenditure is on average 15-17 per cent or about six time health expenditures for the average household.

[24] USDA (2003).

[25] This is an "all-else-equal" consideration. Obviously, other factors are at play here that affect the pass-through effect of international prices to domestic prices, such as the level of protectionism and subsidies of a country.

As hunger is essentially a developmental problem at large, it is important to highlight its complexity. Hunger cannot be prevented by a single action plan, but needs to be addressed by a comprehensive social, economic, and political development philosophy. For the eradication of hunger, nations must provide the right institutional environment, economic opportunities and vertical social mobility, which in turn require fiscal capacity to provide the complementary institutional and physical infrastructure. In order to illustrate this relationship in more detail, the following scatter plots use proxies for a country's general development level, economic opportunities, vertical social mobility and fiscal capacity as independent variables and the Global Hunger Index as the dependent variable. The proxies for the independent variables are per capita income (in constant 2005 United States dollars), manufactures and services export share (percentage of GDP), income inequality (reads like Gini coefficient), and tax revenues (percentage of GDP).

TABLE 4. HUNGER RELATED INDICATORS, 1990, 2005 AND 2009

Country/territory	Prevalence rate of undernourishment, 2003-2005 (%)	Children underweight, 2002-2007 (%)	Children Mortality, 2007 (%)	Global Hunger Index, 1990	Global Hunger Index, 2005[a/]	Global Hunger Index, 2009
Bahrain	..	4.5	1.0	..	..	..
Egypt	3.0	6.0	3.6	8.6	4.27	<5
Iraq	..	7.1	4.4	..	..	..
Jordan	4.0	3.6	2.4	<5	4.70	<5
Kuwait	5.0	0.5	1.1	12.6	3.07	<5
Lebanon	2.0	3.5	2.9	5.1	3.50	<5
Oman	..	8.8	1.2	..	..	..
Palestine	..	..	..	..	..	..
Qatar	..	..	1.5	..	..	..
Saudi Arabia	1.0	5.3	2.5	..	6.90	<5
The Sudan	21.0	27.0	10.9	..	25.60	19.6
Syrian Arab Republic	4.0	6.1	9.1	9.6	4.17	11.1
United Arab Emirates	..	..	..	..	..	..
Yemen	32.0	41.6	7.3	30.7	31.53	27.0
World	21.3	20.7	5.3	18.6	..	13.7

Source: IFPRI (2007) and (2009).

a/ The Global Hunger Index 2007 was calculated on the basis of data for the period of 2000-2005. The Global Hunger Report distinguishes five hunger categories. GHI values of less than five reflect low presence of hunger, values between five and below ten moderate hunger, values between 10 and below 20 serious hunger, values between 20 and below 30 an alarming level of hunger, and values of thirty and higher an extremely alarming level of hunger.

Two dots (..) indicate that data are not available.

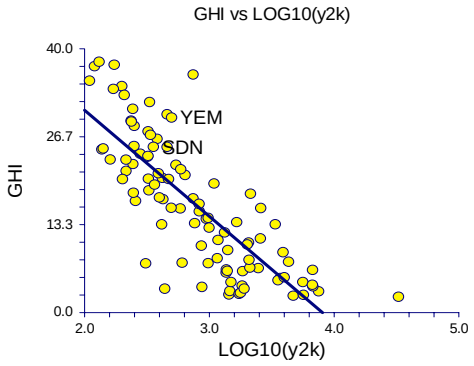
The four scatter plots suggest that strong correlations between the level of economic development (per capita income), the profile and orientation of the economy (manufactures and services export share),[26] income inequality, and state capacity (tax revenues) and the Global Hunger Index. Indicators for ESCWA's conflict-affected countries and territories are not always available; and where these are available, they tend to lie above the trend line, thereby meaning that the relations tend to be less "efficient" than the average trends due to their specific country and conflict-related factors.[27]

[26] The relationship between GHI and manufacturing and service export shares were included also to test the assumption that more diversified economies tend to suffer less from hunger. Economic development in most of the region has clearly been oil dependent and State-driven and has not followed the typical modernization path towards economic diversification.

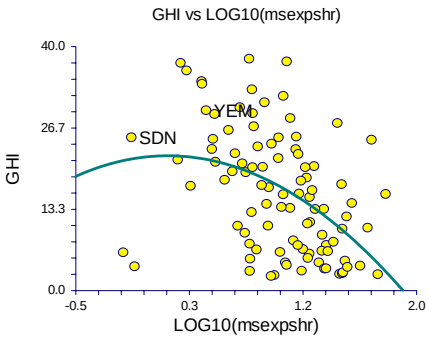
[27] In other words, they tend to suffer from hunger more than the average trend given a certain level of the variable reported on the x-axis.

Figure 6. Determinants of hunger, 1990-2008 average

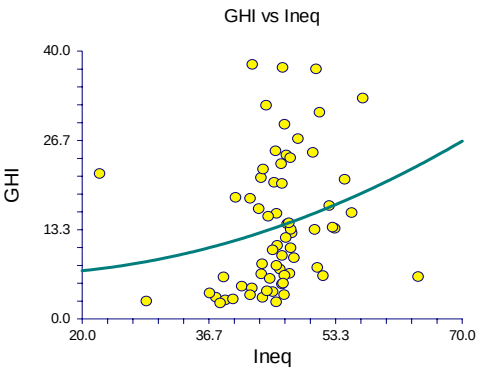
Global Hunger Index (GHI) vs. per capita income (*2000 $, ln*)



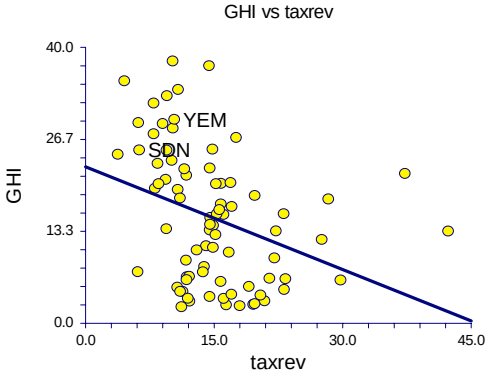
Global Hunger Index vs. manufacturing and service export shares (*ln*)



Global Hunger Index vs. income inequality



Global Hunger Index vs. tax revenue (*% GDP*)



Source: Based on WDI (2009).

In addition to mapping food insecurity at the regional, national and local level, it is also important to identify food-insecure subgroups, namely: (a) rural children, who are generally more likely to be undernourished than those living in urban areas; (b) women, particularly given persistent gender bias in some countries as a result of unequal distribution within households, which causes women to be at greater risk of undernourishment than men;[28] and (c) other vulnerable groups, including nomadic tribes, the disabled and people affected by diseases.

Households under pressure as a result of rising prices or falling food supplies have a range of coping responses. Typically, they react first by eating less or cheaper food. However, if high prices persist, the poorest households are driven to borrowing money or selling some of their assets. Just as poverty makes people food insecure, so food insecurity increases the risk of aggravating or falling into poverty.

Finally, evidence suggests that many ESCWA member countries risk running into a congestion trap caused by high fertility rates, thereby undermining access to both food and to public and private investment capacities. This seems to be particularly the case in conflict-affected countries where population growth rates are among the highest worldwide. In Yemen, for example, population increased from 5 million in 1960 to about 23 million today, which represents an increase of 460 per cent in 50 years with a current average

[28] Rural women are often the main food producers. Yet, rural women find it more difficult to get access to a range of resources, such as credit, land, agricultural inputs and extension services and employment both within the community and the household.

fertility rate of 6.2. Fast population growth poses severe challenges on food security and job creation, and increases pressure on public services and on limited natural resources. This calls for the promotion of policies based on inclusive growth and human development.

TABLE 5. POPULATION GROWTH IN SELECTED ESCWA MEMBER COUNTRIES, 1971-2005

Country/territory	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	Average 1971-2005
Egypt	2.1	2.2	2.4	2.3	1.9	1.9	1.8	2.1
Jordan	3.7	3.7	3.9	3.6	5.6	2.7	2.4	3.7
Lebanon	2.3	0.3	0.8	0.6	3.2	1.6	1.2	1.4
Syrian Arab Republic	3.4	3.5	3.7	3.2	2.8	2.4	2.7	3.1
Palestine	..	..	..	..	3.9	4.3	4.0	4.1
Yemen	2.1	3.3	3.8	3.9	4.6	3.2	3.0	3.4
Iraq	3.4	3.3	2.9	2.6	3.1	3.0	..	3.1
The Sudan	3.0	3.2	3.2	2.4	2.6	2.5	2.1	2.7
Population-weighted world average	2.0	1.8	1.7	1.7	1.5	1.4	1.2	1.6

Source: Based on the World Bank Development Indicator (WDI) database (2009).

Note: Two dots (..) indicate that data are not available.

In summary, access to food is determined by a host of interdependent development-related variables. Food access is highly diverse in the ESCWA region. Hunger is basically absent in the Gulf while it can be serious or alarming among conflict ridden countries. Consequently, hunger in the region tends to overlap with conflict and poverty, high population growth, and increasing cereal prices.

E. FOOD UTILIZATION

Food utilization refers to an individual's ability to extract the essential nutrients for a healthy life from their diet, which in turn requires an enabling natural and socio-economic environment. Food utilization is a function of both the nutritional value of food and living conditions, and is one of the biggest contributors to child mortality in the developing world. In many countries undernutrition and malnutrition constitute what is referred to as the "double burden of malnutrition"; while in others where malnutrition is widespread, food availability is often not the limiting factor, except under sporadic famine conditions. The most important malnutrition factors can be inadequate knowledge about the benefits of exclusive breastfeeding and complementary feeding practices, the role of micronutrients, and the lack of time women have at their disposal for appropriate infant care practices and their own care during pregnancy. As a result, many children in food-secure environments are underweight or stunted owing to inappropriate feeding and health-care practices as well as poor sanitation. Malnutrition is also linked to HIV/AIDS, making people more susceptible to the virus and antiretroviral drugs less effective and thereby aggravating its transmission from mother to child. In the ESCWA region, this is a particularly challenging issue in the Sudan.

Important indicators of food's nutritional values are: energy intake, contribution of non-starchy food to total dietary energy consumption, and the provision of iodine, iron and vitamin A.[29] In terms of dietary energy, values below 2,500 kcal per man and values below 2,000 kcal per woman are generally considered insufficient.[30] Consequently, based on available data shown in table 6, the ESCWA region is not confronted with a deficit of dietary energy, with the exception of the Sudan, the Syrian Arab Republic and Yemen.

[29] Shortages in micronutrients (such as vitamin A, zinc, iodine and iron) weaken children's bodies and impair their immune systems, thereby increasing the risk of death from ordinarily curable communicable diseases such as dysentery, measles, malaria, and pulmonary infections. According to UNDP (2009), such causes account for three-fourths of infant deaths in most of the Arab countries, for which relevant data are available, and half the infant deaths in the "rich" ones.

[30] The methodology establishing calorie thresholds can be found at: http://www.fao.org/fileadmin/templates/ess/documents/food_security_statistics/metadata/undernourishment_methodology.pdf.

However, the picture becomes slightly less favourable in terms of food diversity. Lower non-starchy food shares indicate a more unbalanced diet. The numbers show that the ESCWA region's population weighted average of this food diversification indicator is slightly below the world average. However, this result is exclusively driven by the low values in Egypt and Yemen. Regarding the micronutrients iron and vitamin A (which tend to obviate anemia and blindness, respectively), recommended values are between 600 and 1,200 micrograms per day, depending on such factors as sex, age, pregnancy and lactating status. Generally, vitamin A deficiencies can be common in developing areas. Iraq, the Syrian Arab Republic and also some GCC countries are no exception to this finding. Other ESCWA member countries for which data are available have favourable values.

TABLE 6. DIETARY INDICATORS, 2002-2005 AVERAGES

Country/territory	Dietary energy	Share of non-starchy	Iron per person	Vitamin A
Egypt	3320	33	11.5	> 600 mcg
Iraq	2337[a/]	..	..	300-600 mcg
Jordan	2820	53	10.9	> 600 mcg
Lebanon	3160	60	11.1	..
The Sudan	2180	49	..	..
Syrian Arab Republic	3000	53	17.9	300-600 mcg
Yemen	2010	40	13.7	..
More diversified economies	2836	42	12.8	300-600 mcg
Conflict-affected countries	2189	46	13.5	..
Bahrain	..	..	7.4	> 600 mcg
Kuwait	3070	58	13.4	300-600 mcg
Oman	..	..	10.6	300-600 mcg
Saudi Arabia	3060	..	..	300-600 mcg
United Arab Emirates	3040	55	16.7	> 600 mcg
GCC subregion	3058	51	14.1	300-600 mcg
ESCWA	2870	43	12.9	300-600 mcg
World	2782	47	14.3	300-600 mcg

Source: FAO Food Security Statistics, which is available at: www.fao.org/economic/ess/food-security-statistics/en/.

a/ Iraq poverty analysis, 2010.

Two dots (..) indicate that data are not available.

Diarrhea treatment of children aged under 5 with continued oral rehydration and continued feeding as well as the population share with access to safe drinking water are indicators that suggest a favourable food utilization environment. Table 7 summarizes these indicators, which, surprisingly, show Iraq and the Sudan with the highest coverage of diarrhea treatment, owing probably to extensive and continuous relief operations that are present in these two countries.[31] The population-weighted average of the more diversified economies of the ESCWA region, however, falls short of the world average. In terms of the population share with access to safe water, the region appears to be well positioned. However, such conflict-affected countries as Iraq, the Sudan, and Yemen have strong relative deficiencies with regards to access to safe water which are even worse in some areas within these countries such as Southern the Sudan where around only 25 per cent of the rural population has access to safe water.

[31] However, the scores for Darfur in the Sudan are worse than the national average.

TABLE 7. LIVING CONDITIONS, 2003-2007 AVERAGES

Country/territory	Diarrhea treatment (*Percentage of children under 5 receiving oral Rehydration and continued feeding*)	Improved water source (*Percentage of population with access*)
Bahrain	..	..
Egypt	27.00	98.00
Iraq	63.80	77.00
Jordan	32.20	98.00
Kuwait	..	..
Lebanon	..	100.00
Oman	..	..
Palestine	..	89.00
Qatar	..	100.00
Saudi Arabia	..	95.70
The Sudan	55.90	70.00
Syrian Arab Republic	34.20	89.00
United Arab Emirates	..	100.00
Yemen	32.80	66.00
ESCWA	35.71	87.81
More diversified economies	35.71	86.43
GCC subregion	..	96.35
Conflict-affected countries	47.75	71.51
World	40.30	86.59

Source: The World Bank Development Indicator (WDI) database (2009).

Note: Two dots (..) indicate that data are not available.

The same logic that applies to the determinants of hunger applies to the determinants of the environment that is favourable to the efficient utilization of food. This is particularly true with respect to access to safe water as an indicator for a favourable food utilization environment. Figure 7 shows the scatter plots that highlight the relationship between per capita income (proxy for the general development level), manufactures and services export shares (proxy for the economic profile and presence of economic diversification), income inequality, and tax revenues (proxy for fiscal capacity) as independent variables, and access to safe water as the dependent variable. The relationship between access to safe water and income per-capita emerges as particularly clear.

Figure 7. Determinants of favourable food utilization environment (safe water)

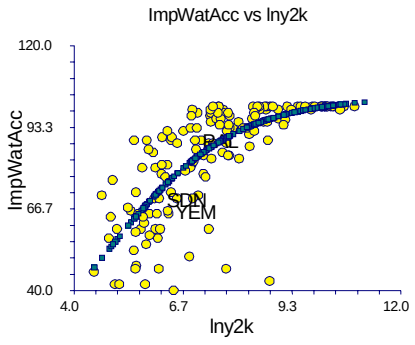
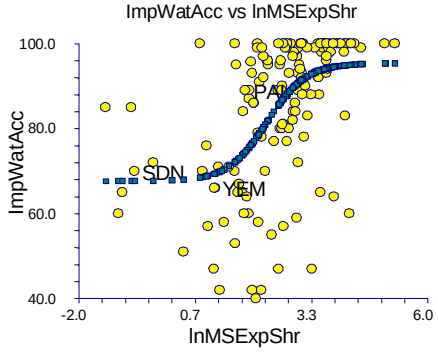
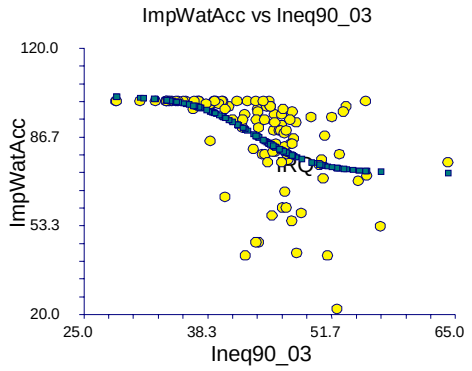
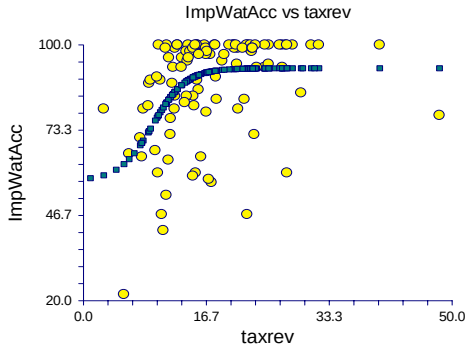
Access to safe water vs. per capita income (*2000 $, ln*)	Access to safe water vs. manufacturing and service export shares
	

Figure 7 (*continued*)

Access to safe water vs. income inequality (*ln*)	Access to safe water (*ln*) vs. tax revenue (*% of GDP*)
	

Source: ESCWA calculations based on the World Bank Development Indicator (WDI) database (2009).

F. POVERTY IN THE ESCWA REGION

Poverty persists in communities with poor market access, poor natural resources, and little political and social capital.[32] Natural disasters, climate change and conflict conditions in the ESCWA region further erode livelihood systems and the resilience of the rural poor.

The World Bank has estimated that 5 per cent of the Middle East and North Africa (MENA) population are below the lowest $1.25-a-day poverty line and suffer from many forms of deprivation, including malnutrition; and that 2.6 million more people are projected to be in poverty because of the global crisis by 2011. Approximately 2.2 million of new poor may have risen just in the ESCWA region.[33]

The impact of food prices on poverty depends on the relative presence of net buyers (normally negatively affected by the price spikes) and net sellers (positively affected by the price spikes) of food in a given economy. The above calculations may be in the lower range given that Arab countries have many poor consumers of goods that are integrated with world markets, being net importers of many (food) items, while sellers are not as integrated in those markets for various economic and policy reasons. As a result, the impacts on poverty may be more adverse than under Ivanic and Martin's assumptions. However, most of the countries in the region have subsidies and other transfers in place that would work in the opposite direction of the previous assumption. The assumption, therefore, is that the two aspects tend to cancel one another. Iraq is not included because of lack of pre-crisis data. The calculations are based on national poverty lines.

The World Bank Regional Brief indicates that the degree of poverty vulnerability is very high in MENA, with large numbers of people living close to (but above) the poverty line. Yemen and Iraq, for example, show a relatively high distribution of the population around the poverty line making people particularly vulnerable to any kind of shock. Overall, while less than 2 per cent of MENA's population lives on less than $1 a day, some 20 per cent of the regional population lives on less than $2 a day (the respective figures are 3 per cent and 43 per cent for Egypt, and 10 per cent and 45 per cent for Yemen). Using the latest data available for Iraq, around 45 per cent of people live with less than $2.5 a day. By comparison, the MENA average is 28.4 per cent.

[32] OECD (2005).

[33] The estimates presented here are based on the methodology used by Ivanic and Martin (2008), who have found that on average an increase of 4.5 per cent in worldwide poverty can be directly attributed to the food price spikes. Ivanic and Martin use household survey data for nine countries and apply a Computable General Equilibrium model. Their results show that an increase of 10 per cent for seven key food items raises the poverty headcount ratio by 0.4 per cent. Wodon et al. (2008a) show that with a 50-per-cent increase in food prices the overall average increase (taking also into account the positive impact on food producer incomes) in the poverty headcount is 2.5 per cent.

Given the above, increases in global food prices represent a key factor that can contribute to greater poverty and can hamper people's ability to secure their basic needs of food and commodities in the region.

TABLE 8. POVERTY AND NEW POVERTY IN THE ESCWA REGION IN THE AFTERMATH OF THE FOOD CRISIS

Country/territory	Population, 2006 (*millions*)	Pre-crisis poverty headcount (*millions*)	New poor (*millions*)
Egypt	78	13	0.59
Jordan	5.5	0.8	0.03
Palestine	3.7	1.2	0.05
The Sudan	39.5	23.7	1.07
Syrian Arab Republic	19.5	2.2	0.10
Yemen	21.6	7.7	0.34
Total	167.8	48.6	2.19

Sources: Based on IFAD and FAO (2007); and Ivanic and Martin (2008).

Until the start of the fuel, food and financial (3Fs) crisis in 2007-2008, poverty in the Arab region had been steadily decreasing, particularly until the 1980s. Adams and Page (2003) argue that this result owed, among other factors, to the high level of public sector employment and high levels of remittances resulting from the oil boom. In the 1990s, both areas recorded a downward trend. This shows how the economies at large and poverty levels are heavily affected by the vagaries of oil markets and revenues also due to the menu of policies historically based on public employment used as an instrument for social protection.

The MENA region's population has increased at the highest rate in terms of population growth of any region in the world during the past century. The average annual population growth rate as of 2004 was 1.7 per cent. Population growth and expanding urbanization has increased pressure on limited water resources and drylands, compounded by conflicts in some parts of the region, thereby affecting negatively food security and trapping higher numbers of people in poverty, undernourishment and hunger.

By contrast to conventional perception, research shows that rural poverty is at the core of the food security problem in this region as the poor living in these areas are hit hardest by food price shocks due to their consumption patterns and lack of resilience mechanisms.[34] This owes to the fact that the poor in rural areas are usually constrained by small landholdings, input availability and costs, low production quality, production shocks, distance and access to markets and, consequently, are often unable to produce and market the surplus required to exceed their food expenditures. It is estimated that more than 70 per cent of the poor live in rural areas and, given the rural-urban migration patterns, rural poverty is not expected to decrease compared to urban poverty.

TABLE 9. DISTRIBUTION OF RURAL AND URBAN POVERTY

Country/territory	Percentage of the poor in urban areas	Percentage of the poor in rural areas	Percentage of rural poor on total
Yemen	21	40	84
Egypt	10	27	78
Iraq	16	39	..
Jordan	12	19	29
Palestine	21	55	67
The Sudan	27	85	81
Syrian Arab Republic	8	15	62

Sources: The World Bank (2008); for Iraq, COSIT and the World Bank (2010); and, for the Sudan, IFAD and FAO (2007).

Note: Two dots (..) indicate that data are not available.

[34] Those that consume a large share of staples like maize in their diet have been particularly vulnerable as its price skyrocketed in 2008.

Rural population and poverty in the MENA region is concentrated in rain-fed dryland areas, where pastoral livelihoods integrate livestock, primarily sheep, with cultivated cereal fodders in seasonal migrations. The situation is exacerbated by the absence of long-term integrated development policies aimed at overcoming and alleviating the impact of hard climate factors and scarcity of resources in addition to manmade conflicts (see box 1). The relationship between poverty, food security and environment is interlinked with a causal effect relationship, given that poor people rely more heavily on natural resources for their livelihood, thereby increasing pressure on natural resources.

Box 1. The agro-ecological constraints in the ESCWA region and its consequences

In the ESCWA region, the challenges of raising food production and rural incomes in the coming decades are made more complicated by increasingly tight ecological constraints. While the region is home to between 5 and 6 per cent of the world's population, it holds only 1 to 1.4 per cent of the world's accessible and renewable fresh water, thereby reflecting on the scarcity of water resources with a region that is facing adverse climate conditions. Water withdrawals in the Arab region are estimated to amount to more than two-thirds of renewable water resources, compared with an average of only 8 per cent (with an upper end of 30 per cent) in developing countries (World Bank, 2007). Of this around 85 per cent of water use is for irrigation. It is expected that climate change may reduce rainfall by some 20 per cent, thereby making agricultural water use efficiency (with water progressively priced at least partly based on its shadow price) a crucial prerequisite for an equilibrated development of the region. There are reasons for concern that some agricultural sectors in the region are already approaching, or have exceeded, ecological limits. For example, the use of fertilizers per hectare in Israel, Jordan and Palestine are among the highest in the world; consequently, the concentration of nitrates in the coastal aquifer of Palestine and Israel has doubled during the 1980-2000 period (Brooks, 2000). In coastal areas, such as in Palestine or Oman, over-abstraction for irrigation also caused substantial and largely irreversible saline groundwater intrusion, which further led to the abandonment of land for agricultural purposes. The problem of soil salinity is acute in many of the region's most productive irrigated lands, such as in Iraq and Egypt where the problem afflicts perhaps 30 per cent of the cultivated area (Postel, 2001).

Over-pumping of groundwater is equally endemic. In Yemen, the area irrigated by wells rose from 37,000 hectares in 1970 to about 500,000 hectares today, amounting to about 100,000 wells and 40 per cent of the total agricultural land, with parallel deepening of the wells and decreasing quantity of water extracted. Government policy encouraged this development through fuel subsidies. Agricultural borrowers also enjoyed generous interest subsidies on investments in wells (paying interest rates 5-6 times lower than market rates). Covering only the marginal cost of extraction would have required a price three to five times higher than the average water price in place[35]. Finally, the Government protected the domestic fruit and vegetable market, and did not restrict the boom in *qat* (a mildly narcotic drug, which uses some 20-30 per cent of all irrigation water in the country) (Ward, 2000; MOPIC and IFPRI, 2010). As a result, extraction now exceeds recharge by 400 per cent, and Yemen is probably the only country where groundwater extraction exceeds recharge for the country as a whole (Shah *et al.*, 2000). As a result, water tables have fallen dramatically (Liechtenthaeler and Turton, 1999).

Producing each calorie of food requires approximately one litre of water. On that basis, to provide each consumer with at least 2,000 calories per day entirely by means of local production, the ESCWA region would need at least 520 million of cubic metres of water per day and by 2050 it would almost double amounting to a total need of at least 330 billion of cubic metres of water per year against a current availability of total surface water resources of about 277 billion cubic metres per year.

The region is experiencing hard climate conditions with natural resources depletion, desertification, water scarcity and persistence of droughts acting as contributing factors to poverty and insecurity. While the literature on water has recently moved from "water scarcity as a driver of war" to "water scarcity as a driver of cooperation" approach, water over-exploitation can have dangerous security implications for three main reasons, namely: (a) over-pumping has shown serious distributional effects in many parts of the region as abstraction costs increase allowing in some cases only larger farmers to continue to pump the over-exploited aquifer while the smaller farmers are forced out of the market; (b) scarcer water resources have contributed to cause more strained relations between local communities and farmers, on one hand, and nomads and pastoralists, on the other; and (c) major water resources in the region, including the Nile, Euphrates/Tigris and Jordan, are shared between countries and are subject to contentious riparian issues as agreements on abstractions by several countries have been proved difficult to achieve. These findings are corroborated by the fact that in many conflict zones it is increasingly difficult to distinguish between "conflict-affected" populations, which are entitled to the official status of IDPs and therefore to humanitarian assistance, and "harvest-affected" populations making relief operations even more difficult.

[35] This could be achieved through the introduction of an incremental pricing mechanism for higher per capita/per hectare levels of consumption of surface or ground water in excess of a minimum allotment for irrigation of food crops.

Box 1 (*continued*)

Further to negative water quality impacts, saline groundwater intrusion, soil salinization and over-abstraction of renewable groundwater resources, the region also faces major sustainability constraints with respect to the highly subsidized use of non-renewable groundwater in agricultural production. Often the former national food self-sufficiency strategies have developed into dead-end-policies with highly subsidized local food production and food markets[36] whereas it is today often more suitable to invest in securing such staple food supplies through trade agreements. Recently, Saudi Arabia decided to phase out the use of non-renewable groundwater for the production of wheat by 2016 and left behind their former national food self-sufficiency strategy. Still many challenges remain to further reduce the non-renewable groundwater utilization to the most economically sound and productive uses, i.e. drinking water supplies, especially in the vicinity of larger urban areas without any economic alternative for drinking water. Finally, because of limited land resources and rapidly growing population, by 2050 arable land per capita is projected to decrease to 0.12 hectares from 0.3 hectares in the 1990s (FAO, 2008). Realizing the various constraints to national food security and production on national level, many ESCWA member countries are investing in new trade and agricultural development (lease) agreements with other countries in the region and beyond. Unfortunately, such international investment agreements are not always very transparent and hence it remains to be seen if all such agreements will lead to sustainable development options for all partner countries and their local populations.

Sources: Lofgren and Richards (2003); and the World Bank (2007).

The Arab region is lagging behind on MDG 1 according to which, by 2015, the proportion of people living in poverty and the proportion of people suffering from hunger should be half of that in 1990.[37] There are disparities between Arab countries in fighting hunger and poverty affecting mostly rural areas and especially women and children. The Sudan's long and continuous civil war has had its toll with the largest population of food insecure (more than 8 million). It is followed closely by Yemen (more than 7 million), which depends heavily on food imports with some 90 per cent of its wheat imported, making it very vulnerable to international market prices. In Palestine, the cost of wheat flour increased by over 90 per cent in 2008-2009, putting additional pressure mostly on the poor families who are seeking alternative coping measures with the present economic collapse as a result of the closure of border crossings, movement restrictions and economic isolation.

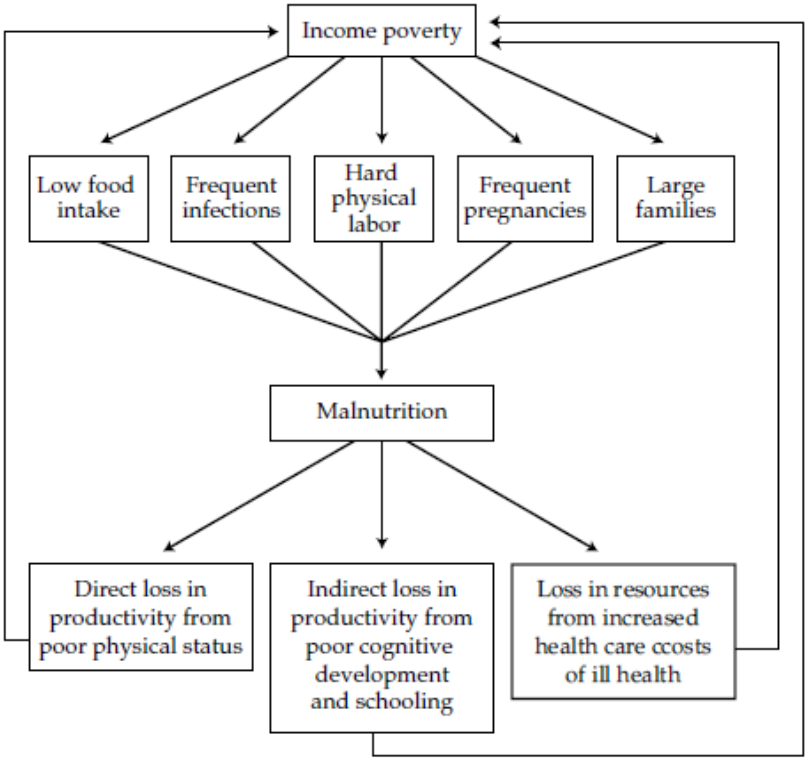
Evidence has shown that when poor households are faced with large negative shocks, such as the 2008 spike in food prices, they may sell such productive assets as seeds and livestock, thereby jeopardizing their future earnings prospects. Higher overall inflation hurts the poor the most.[38] Moreover, the effects of switching micronutrient rich food to cheaper staples tend to show up in the long term along with the weakening of immune systems of the poor and the consequent increase in morbidity rates. Additionally, school drop-out rates tend to increase, particularly for girls, owing to the increased opportunity cost of keeping children at school rather than making them work or help their family at home. This means that such shocks tend to go beyond their immediate impact and jeopardize the limited resilience of the poor in the long term as depicted in figure 8.

[36] Costly producer support policies affect the poor in three ways as follows: (a) governments' "strategic" crops tend to prevail on production based on comparative advantages which tend to increase incomes of rural farms, thereby affecting the income of small farmers; (b) increased water use and therefore environmental degradation which can lead to long-term loss of productivity; and (c) crowd-out of fiscal space in crucial social services, such as education, health and social protection due to agriculture subsidies.

[37] UNDP (2009).

[38] Easterly and Fischer (2001).

Figure 8. The relationship between poverty and malnutrition



Sources: Bhagwati et al. (2004); and the World Bank (2006).

II. CONFLICT AND FOOD SECURITY NEXUS

A. A HISTORY OF CONFLICT IN THE ESCWA REGION

The ESCWA region has a long history of conflict. According to the online dataset entitled "Major episodes of political violence, 1946-2009" by the Center for Systemic Peace, the world has witnessed 315 episodes of armed conflict (including 26 ongoing cases) involving 110 countries between 1946 and 2009.[39] The death toll of these wars is estimated at more than 30 million people. ESCWA member countries were involved in 59 of the total of 315 conflicts, with an estimated human cost of close to 3.5 million people.[40] According to UNDP, some 90 per cent of the people who died as a result of conflicts in the Arab region were civilians and one-half were children.[41]

Conflicts can be measured according to two criteria, namely, onset and duration. While the ESCWA region does not stand out with regard to sub-Saharan Africa or Asia in terms of conflict onsets, it certainly does in terms of average duration.[42] A possible implication of such a characteristic of conflicts in the region could be a mix of heavily skewed public expenditure towards military spending together with blanket subsidies aimed at assisting citizens regardless of their needs and specific conditions. A possible future thread of research could dig deeper into the implications of such a characteristic with regards to poverty and development policy.

As these data illustrate, the region has been affected by different forms of conflict, ranging from international wars between States to internal conflicts and political violence.[43] The underlying reasons for both wars and internal conflicts in the region have historically overlapped and can perhaps be best understood as a web of inter-linkages that continue to bear relevance today. One root cause of the region's propensity to conflict that is often cited is its colonial history from which the Arab-Israeli conflict, among others, was born. This conflict has had a profound effect on the politics of the whole region and still provides a rallying point for internal protest in many countries. Unlike in other parts of the world, the ESCWA region's colonial dialectic has never found closure. Another epicentre of violence in the region is the Iran-Iraq dispute, which has drawn in the Gulf States as well as extreme forms of international intervention, given the area's significant geopolitical relevance.

In addition to this, high population growth and the so-called "youth bulge" poses an increasing threat to peace and security in a region where job creation is low;[44] vertical and horizontal inequality exist; poverty

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[39] See www.systemicpeace.org/warlist.htm.

[40] In a similar time span, the UCDP/PRIO Armed Conflict Dataset, version-4 (2009), lists 228 conflicts occurred in the ESCWA region out of a worldwide total of 1957, amounting to almost 12 per cent of episodes. By comparison, according to the Center for Systemic Peace the ratio is almost 19 per cent.

[41] UNDP (2002).

[42] Sørli, Gleditsch and Strand (2005).

[43] There are no clearly agreed upon definitions of conflict in the international law and in the literature. However, here are the common definitions of armed conflict and its two main categories (internal and international conflict): an armed conflict is defined by the PRIO/Uppsala research team on the subject as "a contested incompatibility which concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in …" casualties. Internal conflict "occurs between the government of a state and internal opposition groups without interventions from other states". International conflicts "occurs between the government of a State and internal opposition groups with intervention from other States" or directly between the government of a State and the government of another State.

[44] Urdal (2004, 2006 and 2007) shows that youth bulges tend to provide greater risk of violence through the abundant supply of youths with low opportunity costs as youth bulges are more likely to experience institutional crowding, in particular unemployment. This study finds also some empirical evidence indicating that the effect of youth bulges on political violence may decline along with reduced demographic growth as measured by dependency ratio. However, it must be noted that a youth bulge can also offer a tremendous opportunity for a country's social and economic development in the long term. The increase of people of working age (15-64 years old) is projected to continue until 2050, and will decrease the dependency rates in the region (the ratio of the economically dependent segments of the population – those under 14 and over 65 years old, to the productive segment of the population) thereby creating a "demographic bonus" effect. If the youth bulge is accompanied by opportunities for productive employment it can support higher rates of economic growth, boosting the productive potential of a country, and be conducive to an increase in per capita savings, providing the potential for higher investment activities. For a comprehensive analysis of the implications, challenges and possibilities of the youth bulge in the Arab region, see ESCWA (2007).

is shallow and concentrated around its threshold; State and/or natural resources are stretched; and where a high vulnerability to conflict is evident in the region. While in most cases conflict is internal, the spillover effects caused by refugees, migrations, exported ideological, ethnic and religious sympathies and their translation into armed conflict, can place pressure on the already delicate functioning of weak States, which themselves struggle to survive through an elaborate process of bargaining and patronage.

The troubled development of Arab countries is another critical consequence of the above. According to the Failed State Index, which is produced by the Fund for Peace and which highlights the various categories that have the potential to destabilize countries,[45] the conflict-affected countries in the ESCWA region reveal themselves to be particularly vulnerable.[46]

Table 10 demonstrates the inter-linkages between the fragility of Arab countries and the outcome of intra- and internal State conflicts. However, it must be noted that while many Arab countries can be characterized as facing overwhelming challenges, in most cases the State has proved resilient, defying conventional wisdom and avoiding total State collapse.[47] The conflict-affected countries of Iraq, the Sudan and Yemen carry the "alert" label, with the Sudan being ranked at the top in the region.[48]

TABLE 10. THE 2009 FAILED STATE INDEX

Country/territory	Failed State Index score	Demographic pressures	Refugees and IDPs	Group grievance	Human flight	Uneven economic development	Economic decline	Delegitimization of the State	Public services	Human rights	Security apparatus	Factionalized elites	External intervention	Rank (n=177)
Lebanon	93.5	7.0	9.0	9.2	7.2	7.4	6.3	7.8	6.2	6.9	9.1	9.1	8.3	29
Yemen	98.1	8.8	7.9	7.7	7.4	8.9	8.2	8.3	8.5	7.7	8.4	9.0	7.3	19
Iraq	108.6	8.7	8.9	9.7	9.1	8.6	7.6	9.0	8.4	9.3	9.7	9.6	10.0	6
The Sudan	112.4	9.0	9.8	9.9	9.0	9.6	7.0	9.8	9.5	9.8	9.7	9.5	9.8	3
ESCWA	91.1	7.5	7.6	8.2	6.4	7.9	6.4	8.6	6.7	8.5	7.4	8.2	7.7	43.7
World	75.8	7.3	5.6	6.9	5.9	7.9	5.2	6.6	6.2	6.7	6.1	6.4	5.0	79.9

Source: Fund for Peace, which is available at: www.fundforpeace.org/web/.

Note: Red denotes "alert"; and orange denotes "warning".

[45] A word of caution needs to be spent here. While such an index has been widely used in the literature, its indicators often rely on subjective interpretations of some of its components thereby making comparative research difficult.

[46] Each category is given a score between zero (low intensity) and ten (high intensity) and summed up to a total Failed State Index. The Index is also categorized into alert (90 to 120), warning (60 to less than 90), moderate (30 to less than 60) and sustainable (0 to less than 30). More information is available at: www.fundforpeace.org/web/.

[47] For a discussion of what constitutes a "strong" as opposed to a "weak" State, see Migdal (1988).

[48] FSI does not include the West Bank and Gaza Strip as a distinct entity in the ranking and therefore no meaningful comparisons are possible.

In other words, threats to peace and security in the ESCWA region are complex, ongoing and overlapping. Many countries share the same challenges in terms of internal conflict, and all of them face the threat of spillover conflicts. Finally, in a region where water is so scarce and food security is low, it is not unfeasible that resource-motivated frictions within and between countries could occur in the future; and the region has already witnesses food riots caused by the food price hikes in 2008, most severely in Egypt and, to a lesser extent, in Bahrain, Jordan, Lebanon, Saudi Arabia and Yemen.

B. ILLUSTRATING THE CONFLICT-FOOD INSECURITY NEXUS

Very few scholars have investigated the relationship between food security and conflict, whereas many have studied the link between resource scarcity and armed conflict. However, the categories enshrined in the concept of food insecurity can be used as a proxy of resource scarcity and its unequal access given that poverty and hunger together with an unequal distribution of income, land and other material assets and goods can generate grievance and a sense of social injustice that can serve as a moral and political foundation for conflict.[49] If this is so, then a link can be established between the two threads of research and the field of investigation can be expanded in order to analyse the nexus with conflict.

Research conducted by Homer-Dixon (1999), International Alert (2007), Ohlsson (2003) and Buhaug et al. (2008) argue that scarcity of resources can increase inclinations for individuals to join fighting in a conflict through the following catalysts of organized violence: (a) increasing scarcity of renewable resources in subsistence economies; (b) action of opportunistic elites who intensify social polarization, particularly by means of ethnic or community identities; (c) poor public goods delivery that reduces the political legitimacy of the State; and (d) worsened socio-economic conditions that force people to migrate, thereby increasing stress and risk of radicalization in receiving areas. All these causal links refer to a grievance-based model of civil strife where the grievance is driven by an utterly unequal distribution of and access to resources rather than just a neo-malthusian concept of scarcity.

Moreover, these effects can spill over borders through refugee migrations, the disruption of trade flows, a drop in investment confidence, and an increase in informal and illegal economies.[50] This in turn can push public expenditures in neighbouring countries to shift persistently towards military expenditures. The longer and more destructive a conflict is, the more severe its effects and the longer they tend to last in the aftermath, thereby increasing the probability of conflict recurrence. The Horn of Africa in the 1970s and 1980s is often used as a case study to display the above relationship.

Quantitative research in this area has started thriving only recently and the debate on nexuses and causalities between natural shocks and conflicts is ongoing. However, there seems to be agreement on the following: whether the abovementioned effects result in food insecurity and conflict depends largely on the characteristics of a country. Politically stable, homogeneous and equal societies characterized by good governance do not tend to constitute plausible cases where the food insecurity-conflict nexus occurs. Open political system, a free press and political accountability contribute towards making violence a suboptimal solution and help to explain why consolidated democracies can undergo natural calamities but not famine.[51] Paraphrasing Homer-Dixon, it is ultimately institutional factors that largely determine whether countries and their agricultural systems respond effectively to rising scarcities.

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[49] Our use of resource scarcity does not necessarily put climate change at the center stage of the debate, although it is of uncontested importance, given that resource scarcity can be heavily affected by the social structure and the economy policy of a country, as we will see shortly.

[50] Income generated from informal and illegal economies usually goes without being recorded for tax purposes and is not included in a country's GDP, rendering it beyond the control of the State. Illegal economies are often a key component in funding conflicts, particularly through the sale of lootable resources, drugs, arms and human trafficking.

[51] Sen (1981).

What is the correlation between food insecurity and a nation's vulnerability to armed conflict? The case for attributing a direct causal relationship between food insecurity and conflict is also not clear because the relationship between armed conflict and its explanatory variables is often endogenous; that is, the very presence of a conflict influences the main variables used to explain conflict apart from the geographical ones. There is general agreement, however, that poverty and low growth tend to lead to higher risks of conflict and exclusion, which in turn produce greater economic costs spiralling into a conflict-poverty-exclusion trap.[52] Food insecurity is one part of the bigger picture whereby it *may* be linked to poverty but is not *necessarily*. As mentioned above, a population can be food insecure without being poor, and a population can be food secure despite being poor.

A great deal of quantitative studies in the literature has discussed the obvious correlation between poverty, inequality and civil conflict.[53] This relationship is beyond doubt and can be analysed at three different scales.[54] At the individual level, poverty-related dynamics can decrease the expected returns to farming compared to joining criminal and insurgent groups. At the group level, conflicts are often explained by a relative deprivation (or horizontal inequality) angle whereby differences in opportunities between different groups could trigger marginalized groups to take up arms to alter the status quo.[55] If poverty and low economic growth can trigger conflict, it must be noted that not all forms of economic growth are necessarily "good" when considering the mitigation of conflict.

Kanbur argues that given certain types of inequality are more likely to lead conflict than others, "if the attempts to reduce poverty through economic growth lead to initial increases in the 'wrong' type of inequality, the conflicts this engenders may dissipate beneficial effects of poverty reduction on conflict".[56] In other words, not all forms of economic growth are necessarily likely to reduce the chances of conflict, and some forms may even increase these chances. In particular, growth that increases inter-group inequality between salient groups (horizontal inequality), aligning with socio-political cleavages, is more likely to exacerbate existing tensions within a society.[57] Finally, at the national level, the lack of economic resources and poor economic growth prospect tend to increase the risk of armed conflict as a result of a lack of

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[52] Exclusion derives from inequality. Later analytical works suggest that it is not inequality among individuals that matters for conflict, but rather "horizontal inequality" (inequality between groups or regions) which tend to produce grievances that facilitate mobilization and therefore rebellion. For a review of the literature, see Humphreys and Varshney (2004).

[53] Much of the literature on growth and conflict has been originated from the "greed vs. grievance" debate of Collier and Hoffler (1998, 2000 and 2004) based on which the probability of internal conflicts occurrence are positive function of the probability of one faction's victory, coordination capacity within factions, population size, tax capacity of a country, and negative function of democratic institutions, per capita income level and growth rate, expected duration of the conflict. Lately, the literature has also focused on the positive relationship between conflict, between-group inequality (i.e. "horizontal inequality"), the so-called "youth bulge", as described by Goldstone (2002); location in war-prone and undemocratic regions in Hegre and Sambanis (2005); and the negative relationship with institutional capacity and trade openness.

[54] See, for example, Collier and Hoffler (2002).

[55] In an econometric study of politically excluded ethnic groups in Eurasia and North Africa, Buhaug, Gleditsch and Theisen (2008) find that the risk of rebellion is strongly and positively associated with group size and distance from the government official location. Given these spatial implications, food insecurity has the potential to affect horizontal inequalities in the ESCWA region, particularly in rural areas.

[56] Kanbur (2007).

[57] When considering the link between inequality and political violence in society, Sigelman and Simpson (1977) suggest that four main factors should be taken into account: affluence, social mobility, socio-cultural heterogeneity and the rate of social change. "The key to understanding political violence [lies in] probing the interactions among the various lines of cleavage. Even profound economic inequality may produce only minimal political effects if it cuts across other deep-seated social and cultural cleavages; in such a circumstance, the basis for group action would likely be absent." Sigelman and Simpson (1977), pp. 105-128. Pinstrup-Anderson and Shimokawa (2008), argue that their findings indicate "the importance of pro-poor policies for reducing the likelihood of armed conflict onset." Although they note that these policies would vary depending on the specific conditions within a country, the majority of the population affected by malnutrition and hunger is rural and directly or indirectly dependent on agriculture. Thus, they argue that agricultural sectors in rural areas should be prioritized in efforts to fight poverty.

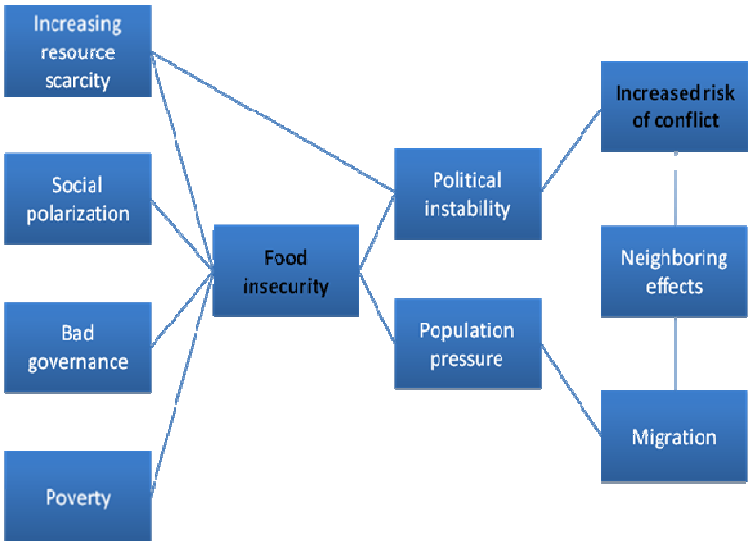
government popularity, poor counter-insurgency instruments, the absence of institutional capacity and/or geographic isolation due to poor infrastructure.[58] However, the application of the "greed-grievance" debate does not apply to all conflicts in the region, as some of them (particularly in Iraq and Palestine) are also characterized by foreign occupation or international conflicts.

A methodological limit that can be found in most of these studies is that they tend to examine only the average income level instead of examining the distribution of income within a country. This approach may be of little help in understanding such a relationship in rural areas where health and nutritional status are better proxies for deprivations than the mere income. Only recently, studies have indicated that deprivation owing to poverty and hunger are important underlying causes of conflict. For example, Pinstrup-Andersen and Shimokawa (2008) found that a 5-per-cent decrease in the headcount poverty index contributes to decreasing the likelihood of armed conflict onset by 1.5-3 per cent; a 10-per-cent decrease in under-five child mortality rates contributes to decreasing the likelihood of conflict onset by 1-3 per cent; and a 5-per-cent decrease in under-five child malnutrition (measured using weight-for-age z scores) causes a decreasing likelihood of 1-3.5 per cent.

These findings indicate that economic growth at the national level may not be sufficient to reduce the risk of conflict if it does not occur in parallel to reducing poverty and improving health status across groups.

In summary, governance-related issues are often at the root of unequal access to natural resources (e.g. land) and basic services triggering conflicts that in turn result in food insecurity and assets depletion. Case studies of the Sudan, the Democratic Republic of Congo, and Somalia provide examples of how institutional dysfunctions may anticipate conflicts and contribute to the conflict-food insecurity nexus.[59]

Figure 9. Conflict Food Security Dynamics



Note: For the sake of clarity in the diagram, possible mutual effects and feedback loops are not shown.

The outbreak of conflict has severe economic consequences within a country and the region where it occurs. According to Collier and Hoeffler (1998), on average an internal conflict reduces a country's GDP

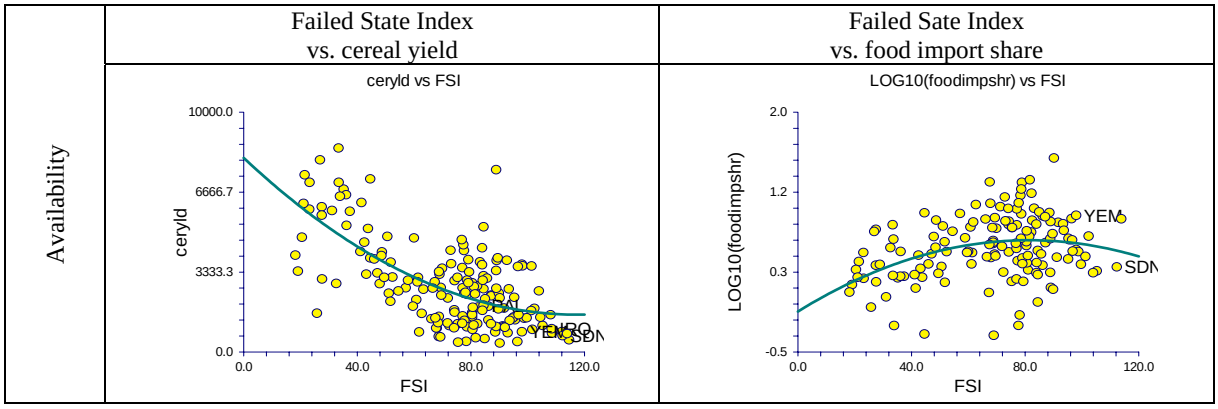
[58] According to Pillay (2003), empirical findings suggest that a society with 5 per cent annual economic growth is on average 40 per cent less likely to fall into conflict than a country whose economy is declining by 5 per cent. Reducing indebtedness and dependency on natural resource extraction further decreases the risk of conflict.

[59] Alinovi, Hemrich, Russo, 2007.

by 2.2 per cent a year.[60, 61] This drop is the result of several factors, such as the disruption and deterioration of infrastructure, labour force and public services, as well as an increased rate of depreciation of physical and human capital.[62] Property rights and rule of law are usually among the first victims of a conflict. Institutional and public expenditure capacities heavily deteriorate and shift from broader developmental policies to military and security-related needs.

Conflict can affect food insecurity through the dimensions of availability, access and utilization. The spread of hunger and starving people into submission are means of warfare in and of themselves. Gleick (2008) reports cases of water diversion as a means of warfare that date as far back as 2500 BC. Warring parties often cut off supply lines, raze agricultural land, kill livestock, contaminate land and water resources, prevent food aid from reaching their destination, or destroy household assets.[63] Landmines can be a particular stumbling block for access to agricultural land and free movement. Regionally, these constrains are typically found in Iraq, Palestine and the Sudan. In early 2008, Palestinians in Gaza stormed the Egyptian border in an attempt to break the imposed Israeli blockade. A shortage of food supplies in conflict-affected regions can often result in price hikes.[64] In Darfur, for example, prices of the main food staples increased rapidly after violence spread in 2004.[65] Hunger and starvation tend to trigger more conflict, which in turn results in more hunger.[66] The scatter plots in figure 10 demonstrate the correlation between a higher likelihood of State failure and some typical indicators used to measure food insecurity, including, for example, low cereal yields, high food import shares, low calorie intake, low public health expenditure, poor access to safe water and low per capita income.

Figure 10. The conflict-food security nexus



[60] The World Bank's estimates for the only conflict in Yemen during its civil war in the 1980s are much higher and revolve around an average annual loss of about 10 per cent of GDP.

[61] This estimate should be compounded with estimates of GDP loss due to malnutrition which typically range around 2-3 per cent in most of the countries investigated in the last two decades (World Bank, 2006).

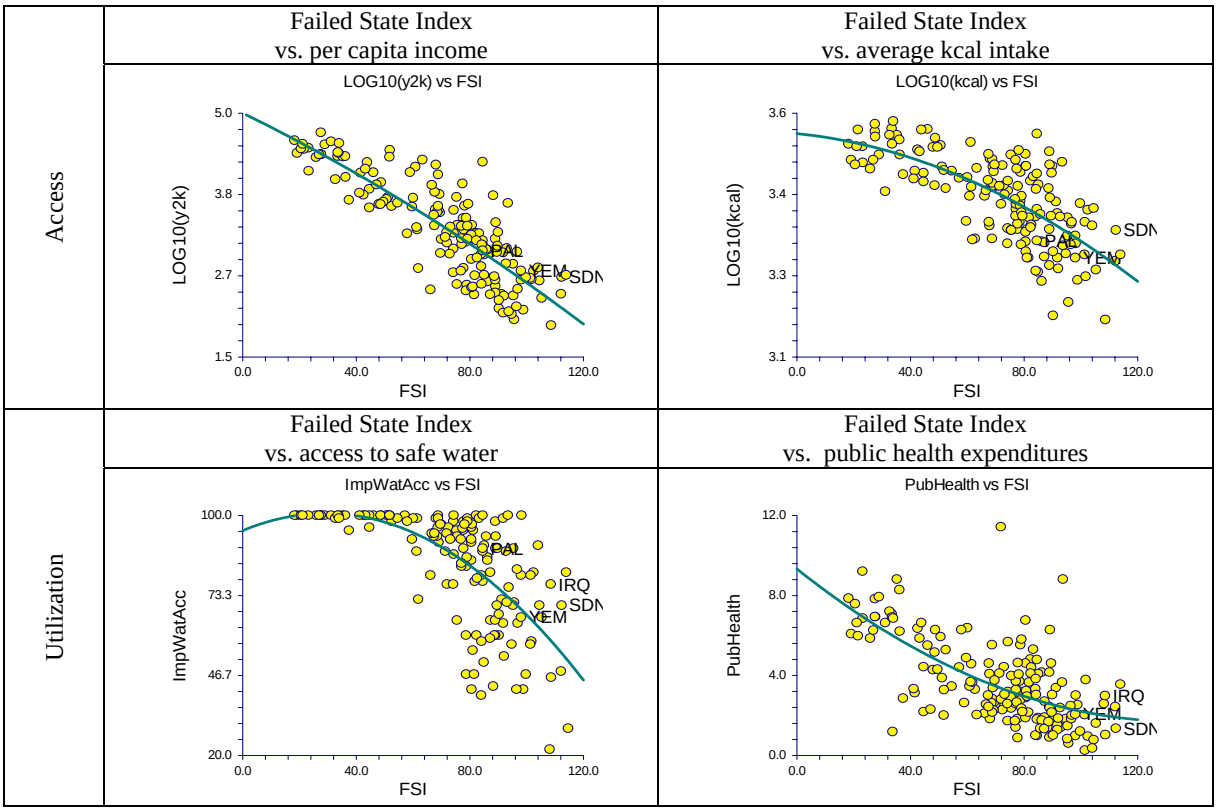
[62] These figures probably understate the total costs of conflicts because many important factors (e.g. social capital) are hard to measure.

[63] De Waal (1998).

[64] Estimates of a sack of wheat price were around $125 in the conflict-affected Sa'da Governorate in 2009, while it was around $37 in the rest of the country The World Bank (2009).

[65] Government of Sudan et al. (2008).

[66] Messer, Cohen and Simmons (2001).



Source: ESCWA calculations based on the World Bank Development Indicator (WDI) database (2009).

Conflict-affected environments are characterized by early childbearing and a lack of family planning.[67] Early childbearing leads to low birth weight. Moreover, lack of education for girls contributes to worse child nutrition through a lack of child spacing and poor child feeding. Similarly, drops in rates of immunization and access to safe water and sanitation expose populations to infections and, moreover, worsen nutrition. Conflict dynamics contribute heavily to an intergenerational food insecurity trap of food insecure mothers, namely, worse child nutrition that leads to low human capital and lack of opportunity in adulthood.

Box 2. Why malnutrition persists in conflict-affected countries and territories

- Pregnant and nursing women eat too few calories and too little protein, have untreated infections, such as sexually transmitted diseases that lead to low birth weight, or do not get enough rest
- Mothers have too little time to take care of their young children or themselves during pregnancy
- Mothers of newborns discard colostrum, the first milk, which strengthens the child's immune system
- Mothers often feed children under age 6 months with foods other than breast milk even though exclusive breastfeeding is the best source of nutrients and the best protection against many infectious and chronic diseases
- Caregivers start introducing complementary solid foods too late
- Caregivers feed children under age two years too little food, or foods that are not energy dense
- Though food is available, because of inappropriate household food allocation, women and young children's needs are not met and their diets often do not contain enough of the right micronutrients or protein
- Caregivers do not know how to feed children during and following diarrhea or fever
- Caregivers' poor hygiene contaminates food with bacteria or parasites.

Source: Based on the World Bank (2006).

[67] UNICEF estimates that the proportion of women aged 20-24 that were married by the age of 18were 37 per cent in Yemen and 27 per cent in Sudan.

C. IMPACT OF STATE POLICIES ON CONFLICT AND FOOD SECURITY IN THE ESCWA REGION

As mentioned above, the ESCWA region is susceptible to both intra- and inter-State conflict. It is important to distinguish between these two forms of conflict in terms of the politics of the State, when considering food insecurity. Internal conflicts promote food insecurity through a lack of internal political consensus that must precede any provision of public goods. Political consensus is theoretically possible, but not reached owing to irreconcilable positions (the Sudan and Yemen). External conflicts, on the other hand, promote food insecurity through an external intervention that prevents the execution of an existing political consensus (Palestine). There are also cases where domestic conflict overlaps with external conflict (Iraq). Furthermore, conflict is associated with a reduced provision of public goods, such as investment in public health, education and technological infrastructure. Table 11 below shows the possible crowding out effect that military expenditure can have on social expenditure in the region, particularly in countries with a limited budget envelope, such as those affected by conflict. In 2007, seven out of the ten countries with the highest military spending to GDP worldwide were from the region, namely, by order of rank: Oman (first ranked), Saudi Arabia (second), Israel (fourth), Jordan (fifth), Lebanon and Yemen (sixth) and Syrian Arab Republic (ninth).[68] As a share of public expenditures, military expenditure has been in the ranges of 35-45 per cent and 30-40 per cent in Yemen and Lebanon, respectively, in the period 1990-2005. Finally, in cases of internal conflict, public spending tends to be selective in order to favour specific groups or geographical areas. In the case of external conflict, however, barely any public spending is possible.

TABLE 11. MILITARY EXPENDITURE VS. SOCIAL EXPENDITURE, 2005-2008 AVERAGE
(*percentage of GDP*)

Country/territory	Military expenditure average, 2005-2008	Health expenditure average, 2005-2007	Education expenditure average, 2005-2008
Bahrain	3.23	3.70	..
Egypt	2.60	6.20	4.05
Jordan	5.38	8.93	..
Kuwait	3.73	2.17	4.25
Lebanon	4.63	8.80	2.50
Oman	11.07	2.47	3.75
Saudi Arabia	8.43	3.33	..
Syrian Arab Republic	4.25	3.90	5.10
The Sudan	4.25	3.70	..
United Arab Emirates	1.90	2.63	1.30
Yemen	4.65	4.20	5.20
ESCWA average	4.92	4.55	3.73
World average	2.43[a/]	9.80	4.58[b/]

Source: The World Bank Development Indicator (WDI) database (2009).

a/ At the regional scale, on average, Europe and Central Asia spent 2.7 per cent, Latin America 1.2 per cent, Sub-Saharan Africa 1.2 per cent, and Low and Middle Income Countries 2 per cent of GDP for military expenditures in the same period. In 2008, the whole MENA region spent 4.2 per cent of GDP on military expenditures, rising by 34 per cent during the 1999-2008 period.

b/ Data refer to 2005-2006.

Two dots (..) indicate that data are not available.

[68] Perlo-Freeman (2009).

The ESCWA region has among the lowest share of employed workforce worldwide which, combined with low growth rates,[69] sectarian and ethnic polarization, socio-economic inequalities and lack of opportunities can lay the groundwork for grievance-type rebellions. Over time, however, these conflicts may mutate into greed-based conflicts,[70] which are perpetuated because of the economic benefits typically gained from war economies, such as asset-stripping,[71] extortion, smuggling, theft and robbery, imposition of informal taxation and labour exploitation.

As described in the chapter dedicated to policy review, second-generation reforms together with public investment in greater social mobility are a promising democratic practice that could help reduce greed and grievance and, therefore, the potential for conflict.[72] Specifically, while the relationship between vertical inequality and conflict is controversial, the positive effects of the creation of more equal opportunities on peace, stability and social cohesion building are much less in dispute.[73] Moreover, public investments in vertical mobility stimulate private investment and therefore, economic growth[74]. Bruno et al. argue that "policies aimed at helping the poor accumulate productive assets – especially policies to improve schooling, health, and nutrition – when adopted in a relative non-distorted framework, are important instruments for achieving higher growth".[75] Accordingly, governments need to focus on policies that improve the provision of credit, reallocate assets (land reforms) and make use of tax-subsidy interventions of the kinds that promote human capital.

D. THE CONFLICT-FOOD INSECURITY NEXUS: THREATS AND OPPORTUNITIES

According to WFP, an estimated 28 million people are food insecure in the four conflict-affected countries and territories of Iraq, Palestine, the Sudan and Yemen (see table 12).

TABLE 12. FOOD INSECURITY IN THE CONFLICT-AFFECTED COUNTRIES AND TERRITORIES OF THE ESCWA REGION

Country/territory	Yemen	The Sudan	Iraq	West Bank	Gaza
Population (*millions*)	23	41	29	2.5	1.5
Food insecure (*millions*)	10	11	6.4	0.4	0.3
Population (*%*)	43	27	22	16	20

Source: WFP country profiles, which are available at: www.wfp.org.

[69] These low rates have been particularly persistent in the region in the 1980s – the so-called "lost decade".

[70] In a follow-up study conducted by the International Peace Academy, which among other issues, considered whether grievance-type conflicts, as a result of resource capture, mutate into greed-driven conflicts, the findings were less conclusive. Attempts to distinguish the economic motives of combatants from their political motives proved to be methodologically challenging as the assessments were based on the subjective assessments of combatants. Further, where the state has already become subject to particular patron-client relations, state capture can be both a political and an economic goal. "In these cases, political and economic agendas of combatants appear to be mutually reinforcing rather than mutually exclusive." Ballentine and Nitzschke (2003).

[71] Assets encompass a range of what people have access to, including natural (land, water, forest products); physical (livestock, tools, immobile property); social (family and social networks); financial (income, investment, credit); and human assets (education, skills, health). Conflicts also underlie another typology of assets which can be defined as political asset given that a lack of access to power – typically represented by the local police, militia or political leaders – can lead to other kinds of asset vulnerabilities to shocks. In fact, in conflict environments, people having other assets but not the latter can be even more exposed to risks than in other contexts, such as natural disasters. See Jaspars and Maxwell (2009).

[72] These reforms typically focus on trade and labour market liberalization, deregulation, competition and privatization policies.

[73] See, for example, Collier and Hoeffler (2004), pp. 563–595; and Cramer (2003), pp. 397-412.

[74] The ESCWA region is characterized by relatively high levels of public investment in total fixed capital formation and low levels of private sector investment compared to the developing countries average.

[75] Bruno, Ravallion and Squire (1996), p. 22.

If conflict is not resolved, food insecurity can be aggravated. Similarly, if food security does not improve, conflict can prove more difficult to settle. Unfortunately, however, agricultural output in the region is unlikely to contribute substantially to the amelioration of existing food insecurity and conflict resolution, at least in the short run. This is because of the growing challenges that the region faces, including population growth, climate change and such natural constraints to agricultural productivity as water shortages, limited availability of arable land and adverse climatic conditions. In other words, unless major leaps in agricultural productivity occur, some of the conflict-affected zones of the countries in the region may head towards a Malthusian congestion trap, namely, a forced staying in subsistence-level conditions if population growth continues to outpace agricultural production.[76]

With respect to the conflict context in the region, findings on potential rain-fed land are particularly relevant with respect to the Sudan, which theoretically can account for almost 90 per cent of the ESCWA region's potential arable land amounting to about 58 million metric tons (MT) of cereal production (with its current yield levels) that would serve to satisfy around 70 per cent of the region's demand. Most of southern the Sudan has huge underexploited areas with enormous agricultural potential. A recent study by the World Bank concluded that similar regions in Latin America and Asia have become highly competitive and export-oriented agricultural regions that could easily satisfy the domestic demand.[77] However, the Sudan's lower-than-average productivity levels do not allow the country to tap into such a potential production leap immediately or entirely, even if the estimated extra arable land was available. In the light of the Sudan's excess supply of arable land, agricultural development may be a promising strategy for increasing domestic and regional food security and, moreover, for supporting conflict mitigation and resolution efforts within the country and promoting peace and security for the region as a whole. This is an even more important factor for the Sudanese economy and the region as a whole if one considers that no other country appears to have any meaningful unused arable land potential. The Sudanese potential supply should therefore be of regional concern and be also addressed within regional policy mechanisms.

E. THE FOOD SECURITY-CONFLICT NEXUS IN THE CONFLICT-AFFECTED COUNTRIES OF THE ESCWA REGION

This section examines more closely the food security issues that affect conflict-affected countries and territories in the region. The analysis results from a review of secondary data and other studies as well as from the inputs received from the countries through a questionnaire that was designed by ESCWA and circulated across the region in February and March 2010. The questionnaire was filled in by various government agencies and is contained in annex II. Unfortunately, of the conflict-affected countries and territories, only Iraq and Palestine responded, which therefore limits the analysis of the Sudan and Yemen.

1. *Iraq*

(a) *Human development*

Iraq has been sliding from a country with substantial human development progress in the 1960s and 1970s into extreme turmoil. Contrary to the general trends in the rest of the region, economic and social indicators have progressively worsened over the past two decades. In the 2009 Human Development Index ranking, Iraq is not even listed.[78] According to the 2008 National Report on the Status of Human Development 2008, Iraq is classified as a low human development country whereas most other oil-rich economies have joined the high human development league. A total of 40 per cent of the population is below 15 years of age – more than 45 per cent for the poor – and an estimated 14 per cent of 6-11 years olds are not attending school. Primary school enrolment rates fell from 99 per cent in 1980 (the highest in the region) to 77 per cent in 2006 (one of the lowest in the region, just above Palestine and Yemen). Only 40 per

[76] Empirical research by Urdal (2005) shows that where land scarcity combines with high rates of population growth, the risk of armed conflict increases somewhat.

[77] The World Bank (2009).

[78] See http://hdr.undp.org/en/statistics/.

cent of students go from primary to secondary education; and youth unemployment (15-24 year-olds) is around 30 per cent and the total unemployment rate at approximately 18 per cent.

Unlike many other ESCWA member countries, Iraq's population of some 29 million is mostly urban, with 70 per cent living in urban areas. Based on a health survey by WHO in 2007, maternal mortality rates are 84 per 100,000 live births compared to 41 and 65 in Jordan and the Syrian Arab Republic, respectively. The report notes further that 22 per cent of Iraqi children (0-5 year-olds) suffer from chronic malnutrition, while 5 per cent suffer from acute malnutrition.

No comprehensive socio-economic survey had been conducted for almost two decades until 2006-2007. The average fertility rate is among the highest in the ESCWA region, just after Yemen and Palestine, at 4.3 with higher rates among the rural and less educated women. Almost 1 in 4 Iraqis (23 per cent or nearly 7 million people) are poor and live on less than $2.2 per day, with a poverty gap index of 4.5 per cent.[79] Moreover, many Iraqis are close to the poverty line although Iraq is not classified as a poor country.[80] This means that moderate increases in food prices can result in substantial increases in poverty rates. Like the other countries analysed in this report, poverty is more present in rural areas.

(b) *Economy*

Iraq has an extremely narrow production base. While the oil sector accounts for 60 per cent of GDP, it employs less than one per cent of the labour force.[81] Iraq has comparatively favourable conditions for agriculture. Compared to other Arab countries, it is relatively water abundant and has fertile land. Agricultural value added to GDP is nevertheless only around 5-8 per cent although it represents a large share of the poor's employment; and overall employment in agriculture accounts for about 15-20 per cent of total labour force. Accurate data, however, are scarce. The major crops are wheat, barley and vegetables. The sector has suffered from productivity declines resulting in average production decrease of over 1 per cent annually between 1988 and 2003. Wheat and rice production have been hit hard by this drop. Modernizing the economy from the bottom is one of the biggest challenges towards sustainable development and poverty reduction. Public investments in infrastructure, schooling and economic diversification are essential in this regard.

(c) *Conflict and food security*

Following a period of human development progress up to the 1970s, a dramatic decline of living standards began in the 1980s. The Iran-Iraq war of 1980-1988, the first Gulf war of 1991 and the comprehensive sanctions in its wake, and the 2003 invasions of Iraq have put a huge toll on the country. Within one generation, Iraq turned some development indicators from a middle-income country to a least developed one. Rough estimates of available albeit scattered data suggest that real per capita income fell by at least some 80 per cent between the 1970s and 2004. Since 2004, Iraq's economy has been growing again although growth still seems to be far from reaching all vulnerable segments of society.

Security concerns remain a crucial issue. While sectarian violence seems to have receded since 2007, the security situation is still volatile and keeps on impacting the lives of Iraqis. In the first seven months of 2009, 1809 civilians were killed by continuing violence, with a daily average death toll of eight civilians. In the 2003-2009 period, there were about 1.6 million internally displace people (IDPs) and some 1.7 million Iraqi refugees in neighbouring countries, mainly the Syrian Arab Republic and Jordan. Approximately 20 per cent of IDPs and 5 per cent of refugees have returned since 2006.[82] In 2008, more than 150,000 Iraqis refugees in Jordan were reliant on international aid to meet their basic needs; and as a result of food-price

[79] The headcount index calculated on the international poverty line of $2.5 per person per day is 13.9 million or about 45 per cent compared to a MENA average of 28.4 per cent.

[80] The Humanitarian Situation in Iraq Inter-Agency Fact Sheet, IAU and OCHA 2009.

[81] Iraq National Report on the Status of Human Development 2008.

[82] It is important to note, however, that these statistics are not fully accurate given that no systematic survey has been carried out on IDPs and not all refugees have registered as such.

shocks, UNHCR found it increasingly difficult to meet its funding needs to assist Iraqis refugees, with the consequent reduction in the caloric content of food packages.[83]

Moreover, as these refugees do not possess official residency permits, they are not allowed to work legally. All these issues together with the complex social fabric of the Jordanian society, which equally comprises a large number of Palestinian refugees, pose pressure on already strained social welfare services and domestic resources.

In 2007, WFP conducted a Comprehensive Food Security and Vulnerability Analysis (CFSVA) Survey in Iraq. The survey identified 930,000 food insecure households nationwide. The most vulnerable were found among unskilled workers and rural communities. Food security was found to be adversely affected by poverty, few job opportunities, high demographic growth, lack of dietary diversity, unsafe food utilization environments and droughts. A universal and inefficient food Public Distribution System (PDS) has been set up since 1990, [84] on which almost 10 per cent of the population depends and which, on average, provides about 85 per cent of total caloric intake of the population.[85] PDS is the main safety net in the country and represents one of the largest food ration systems in the world that effectively prevented a humanitarian crisis during the embargo and the conflicts.[86]

Moreover, about one third of the employed workforce works in the public sector. This reflects low levels of social inequality compared to Iraq's levels of per capita GDP with a Gini coefficient of 0.309.[87] However, the budgetary implications of PDS have been substantial, reaching 8.6 per cent of GDP or one-fifth to one-quarter of Government expenditures and even more in the past decade, with high opportunity costs in spending in other crucial sectors, such as education (6 per cent of GDP) and health (3.4 per cent of GDP). By contrast, the MENA average for safety nets is approximately 2.2 per cent of GDP or 3-5 per cent of government expenditures.

The poor and non-poor receive roughly the same amounts of transfers. The huge imports of food staples have driven down food prices,[88] thereby discouraging private domestic investment and production.[89] As a result, wheat and rice yields in Iraq are on average less than half the yields of

[83] In 2007, a supplementary food package for a refugee family cost UNHCR $70, which increased to $113 in 2008.

[84] Calculations showed that in 2005 it cost about $6.30 to transfer $1 worth of food to a poor person and that about one-quarter of the total budget was spent on transportation, storage or was unaccounted for. The World Bank (2005). As a rule of thumb, efficient safety net programmes operate on average with 5-10 per cent of programme costs devoted to administration. The use of non-competitive procurement has reduced the overall efficiency. The public financial management system, particularly database management, inventory control, accounting and tracking systems, is still rudimentary and often manually-based, thereby making it difficult to know whether prices are charged appropriately, and whether food is delivered according to terms and conditions. As a result, the system has historically been prone to waste, mistakes, speculative operations, theft and corruption.

[85] According to WFP, food basket is distributed, and fees collected, through approximately 45,000 "food and flour agents" (FFAs) throughout Iraq. Food agents are typically local groceries. The PDS individual monthly ration is the following: wheat (9 kg), rice (3 kilos), sugar (2 kg), tea (200 grams), vegetable oil (1.25 kg), detergent (500 grams), pulses (250 grams), adult milk (250 grams), soap (250 grams) and infant formula (1.8 kg). This ration should supply 2,200 kcal per person per day. However, shortfalls in distributions have affected the country. Data from WFP field monitors indicate that the PDS supplied an average of 60 percent of the caloric requirements during 2006. This apparently dropped to 51 percent during 2007.

[86] Currently, only 0.5 per cent of the population has expenditures lower than the food poverty line. PRSHC and the World Bank (2010).

[87] Geographically, inequality is high with poverty concentrated in few governorates.

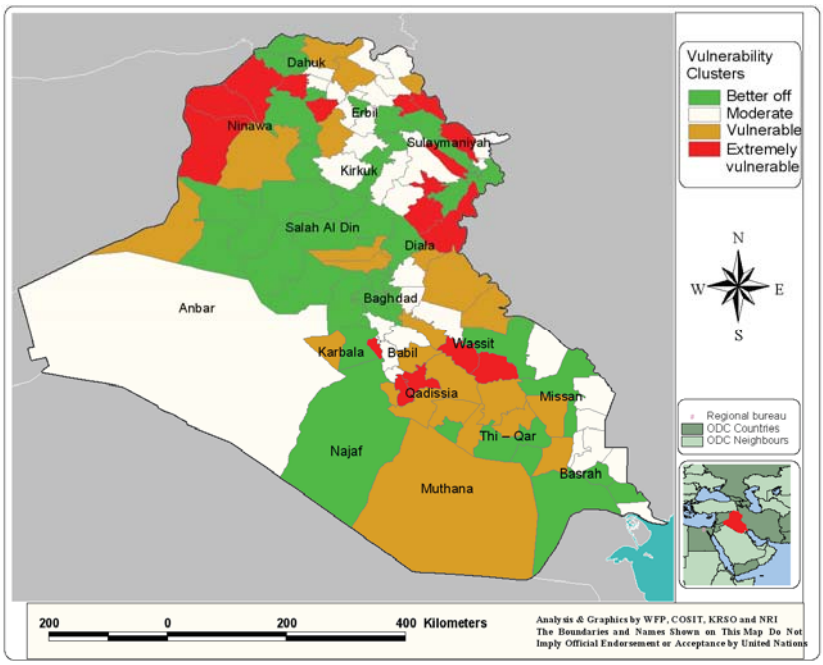
[88] The suppressed prices of food have an impact on consumers in two ways, namely: (a) through the income effect (it raises overall consumption); and (b) through the substitution effect (it raises consumption of food relative to non-food).

[89] While the low prices resulting from the PDS have been a disincentive for Iraqi agriculture in the centre/south, subsidized agricultural inputs and government support prices for outputs have provided strong incentives. The net effect of these two opposing trends is difficult to measure; unlike in the north where the lack of Government support inputs and prices tips the balance towards the negative impact that the PDS has on farmers from that region. Lately, efforts have been made to increasingly use domestically produced goods and private contractors in the PDS with mixed results owing to insufficient capacity of the private sector and low product quality, including, typically, bottlenecks arising from inexperience on the market in the past two decades, poor warehouse capacity and weak financial system. These bottlenecks have the potential impact of rising food prices in the short term whose social impacts need to be carefully assessed.

neighbouring countries. While removal of PDS would have devastating effects on the poor who lack alternative safety nets with risks of politically destabilizing consequences, various proposals to reform the System have been discussed and the Government, in line with the National Development Strategy that was drafted in 2004, has recently announced decisions aimed at reducing the number of products in the ration basket from ten to five, scaling down and better targeting of the System, and implementing pro-growth policies.[90] These steps together with recent adoption of the National Development Plan 2010-2014, the Health Strategy 2009-2013, and the Poverty Alleviation Strategy 2010, are parts of a holistic and consistent effort to tackle food insecurity in the country.

The most recent survey conducted by ESCWA revealed that, among the most aggravating factors contributing to food insecurity were the decline in remittances paralleled with a high population growth, and the heavy reliance on food imports financed by oil revenues, which are undermined by the application of wrong national macroeconomic policies and external interventions. The Central Organization of Statistics within the Ministry of Planning and International Cooperation in Iraq categorized the threat imposed by conflict in Iraq as somewhat severe in addition to destabilizing factors contributed to the current economic crisis and the rise in food prices.[91]

Figure 11. Geographic distribution of food insecurity in Iraq



Source: WFP (2007).

2. *Palestine*

In recent years, pressures resulting from the occupation have had negative socio-economic repercussions on the living conditions of the Palestinian people. The political and economic gap between West Bank and the Gaza Strip have become increasingly wider. The West Bank covers about 5,655 km^2 rich in natural resources, with a population of 2.38 million inhabitants irregularly distributed across 11

[90] Reforms are also expected in the MOLSA Social Protection Net, which reaches less than 10 per cent of the poor and two-thirds of the beneficiaries are non-poor. Such policies should promote better farmers access to inputs and better extension services; and increase access to credit, market information systems and long-term State land leases.

[91] This is contrary to the case of Palestine as indicated by the Ministry of Planning and Administrative Development in Palestine of the drastic impact of conflict and occupation on food security.

governorates. The Gaza Strip is a narrow band of 365 km^2 along the Mediterranean Sea that hosts a population of 1.42 million distributed over 5 governorates, making it one of the most densely populated areas in the world, at some 4000 inhabitants/km^2.[92]

(a) *Human development*

Closures affect access to medication and fuel supplies. Newborns, mothers, elderly and sick people may depend on medication for proper food utilization. Frequent power cuts and water scarcity lead to suboptimal hygiene standards. Moreover, lack of fuel prevents the correct operation of sewage treatment that is necessary to prevent hazardous waste from contaminating ecological resources. This has affected the nutritional intake and status of children. The Palestinian Family Health Survey of 2006 labelled acute malnutrition rates among under-5 children as low, but chronic malnutrition has risen over the past few years, reaching 10.2 per cent in 2006 (compared to 7.5 per cent in 2000). All nutritional indicators are worse in the Gaza Strip compared to the West Bank. Stunting rates have increased, particularly in the Gaza Strip from 8.3 per cent in 2000 to 13.2 per cent in 2006.

(b) *Agriculture and land*

Separation barriers, closed areas and buffer zones in the West Bank, in addition to the security zone in the Gaza strip, has hampered access to about 13.4 per cent of the arable land in the West Bank and the Gaza Strip. These are all factors that contribute to weakening and undermining the agriculture sector in Palestine. Israel controls nearly all the water resources and networks in Palestine and uses 80 per cent of the West Bank's aquifer systems, which adversely affects the capacity of the agriculture sector.[93] The division of walls, fences and security zones has isolated more than 90,000 hectares of land. The situation has been aggravated by the restrictions and refusal of requests to construct water networks, thereby causing agriculture land to shrink to less than one-quarter.[94] Moreover, closures prevent agricultural produce from reaching markets in time, cause the produce to perish and increase real marketing costs.

In an attempt to assess the food security situation, agricultural capacities remain integral parts of a broader assessment, where land management/acquisition remains a key source for achieving economic vitalization and livelihood development within its human security dimension. In the case of Palestine, it is important to discuss the situation within the outcome of the Oslo interim agreement of 1995 that split the West Bank and Gaza Strip into three areas, namely, A, B and C;[95] and the stringently applied restrictions on the movement of people and goods by Israel, suffocating all aspects of growth and development. The Palestinian Authority controls area A, with a high Palestinian population density and area B that covers rural areas. A report by the World Bank, entitled *Economic Effects of Restricted Access to Land in the West Bank*, describes both areas A and B as fragmented, with enclaves and restrictions on movement between them. Area C has been described to surround these enclaves and constitutes the remaining area adjacent to the West Bank left under the full control of Israel. It holds 59 per cent of the land characterized as underdeveloped with a minor population, when excluding Israeli settlements and reserves.

The above background highlights the limited land administration, management of resources and control left to the Palestinian Authority and Palestinian livelihoods. The situation is further exacerbated by physical restrictions and the inaccessibility to land and resources. Based on the same World Bank report, 38 per cent of the land area was reportedly seized by Israel for settlements, security checkpoints, closures and the building of the separation barrier, among others. All of these represent different means to constraining and further deteriorating the livelihoods of Palestinians. The above three-area scenario was

[92] Figures are based on the Palestinian Central Bureau of Statistics Census 2007.

[93] ARIJ, GIS and Remote Sensing Department, 2008, Land use/land cover analyses (dated 2006) for the West Bank and Gaza Strip. See Jayyousi and Sroujli (2009).

[94] Ibid.

[95] See "The Israeli-Palestinian Interim Agreement on the West Bank and Gaza Strip" (28 September 1995).

designed only as an interim arrangement, with the intention of allowing more and larger devolution of land from area C to be progressively given to areas A and B. The progressive scenario was originally set with a timeframe of 18 months but has continued until today in the absence of a comprehensive peace agreement.

As highlighted in the *2009 Socio-economic and food security survey* for the West Bank, nearly 10 per cent of households owning agricultural land considered it difficult to almost impossible to cultivate their land during the second half of 2008. Among those owning and planting their land, 59 per cent referred to restrictions on movement within the West Bank as the main reason that prevented them from the appropriate cultivation of their land owing to resultant difficulties in reaching and working in their land.

In July 2007, a report by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) noted that between 1987 and 2005, settlements and settler population grew significantly to reach over 150 per cent and the land controlled by settlers grew to more than 400 per cent.[96]

Limited resources are available to support the agricultural sector in Palestine and enhance food security. Based on the survey conducted by ESCWA, Government programmes aimed at supporting the agricultural sector in Palestine need to focus on two major areas, namely: rural infrastructure and enhancing extension services.[97]

(c) *Economy*

The fast depreciation of the existing capital stock is only prevented by massive aid. Remittances, aid and aid-subsidized public salaries constitute the major sources of income. The takeover of Gaza by Hamas in June 2007 and Israel's response of more closures and greater control over the inflow and outflow of goods has transformed Gaza into an essentially autarkic economy. The last military operation on Gaza severely impacted the provision of basic services and disrupted the water and sanitation networks.[98] The destruction of wastewater infrastructure caused hundreds of thousands of cubic metres of sewage to leak into the environment. The agriculture sector was severely hit by the Israeli military operation, which destroyed cultivated land, livestock, water wells and irrigation networks.[99]

(d) *Conflict and food security*

Almost 1.6 million people in the West Bank and Gaza Strip are food insecure. Based on the latest WFP/FAO Socio-Economic and Food Security Assessment for Gaza for 2009, food insecurity affects 60.5 per cent of households in the Gaza Strip while an additional 16. 2 per cent are considered vulnerable to food insecurity. The findings of another report for the West Bank reveal that 25 per cent of the assessed West Bank population is food insecure, and 11 per cent is vulnerable to food insecurity.

Undoubtedly, the occupation has severe consequences on food security for both Gaza and the West Bank, although the situation in Gaza is more desperate. In the World Bank's most recent country brief, Palestine was characterized by rising poverty and unemployment rates. Poverty continues to increase in Gaza where the official poverty rate raised from 47.9 per cent in 2006 to 51.8 per cent in 2007. The West Bank witnesses a slight decline in poverty rates, falling from 22 per cent in 2006 to about 19.1 per cent in 2007. Gaza has been characterized by a continuous rise in deep poverty, which increased from 33.2 per cent in 2006 to 35 per cent in 2007. If remittances and food aid are excluded and poverty is based only on household income, the poverty rate in Gaza and the West Bank would rise to 79.4 per cent and 45.7 per cent, respectively, and the poverty depth would increase to 34.1 per cent and 69.9 per cent.

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[96] OCHA (2007).

[97] Both programmes currently have a very limited budget of a few hundreds of thousands of United States dollars.

[98] Israeli military operations on Gaza lasted from 27 December 2008 until 18 January 2009 and resulted in the death of more than 1314 Palestinians, the displacement of 100,000 individuals and the destruction of or damage to more than 15,000 homes.

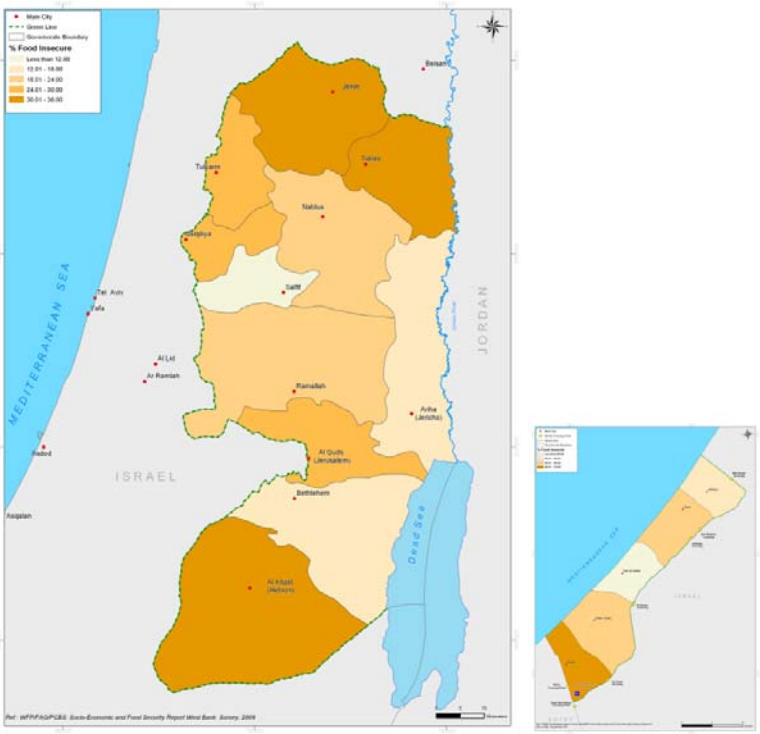
[99] The World Bank (2009d).

The Intifada of 2000 and the takeover of Gaza by Hamas resulted in more stringent closure policies, thereby restricting movements on people and goods. This has caused a drastic shortage of basic commodities, given that over 80 per cent of the allowed truckloads to Gaza carry food items. Other essential items needed for construction and the irrigation systems, water infrastructure and livestock continue to be barred from entering Gaza.[100]

Moreover, based on the recent food security survey conducted by ESCWA, conflict and occupation have been identified as the main threat to food security in addition to climate change and droughts. The economic crisis and the rising international food prices were identified by the Ministry of Planning and Administrative Development (MoPAD) in Palestine as posing a very severe threat to food security. The survey also found that food security was threatened by misguided national macroeconomic policies, high population growth, a decline in remittances and persisting external interventions.

No food security plan can be fulfilled without the appropriate revitalization of the Palestinian economy. This remains almost impossible without the removal and elimination of closure policies on Gaza and restrictions in the West Bank, and where Gaza and the West Bank are maintained as an integral economic entity. The findings of the Palestinian Economic Prospects report does not foresee tangible results with regards to the development of productive Palestinian sectors given both the current physical impediments on movements and the comprehensive array of institutional and administrative barriers disrupting any attempts to support the economy and the appropriate utilization of resources. Amid the current array of impediments, the prevention of fiscal collapse is not attributed to the traditional elements related to sound fiscal policies or a functional economy, rather to a growing dependency on donor aid. In 2008, for instance, external aid amounted to almost 30 per cent of GDP.

Figure 12. Geographic distribution of food insecurity in Palestine



Source: FAO, WFP, 2009.

[100] Ibid.

3. *The Sudan*

With 2,376,000 km² of land, the Sudan is Africa's largest country. The Sudan is tropical in the south and arid in the north. Rain patterns are erratic. Both droughts and floods are common. While the rainy season varies by region, it generally lasts from April to November that may be delayed or even completely absent during a given year. This occurrence can leave the country in the midst of drought inherent famine. About half of this land is suitable for agriculture, of which about only 170,000 km² or some 7 per cent, is actually cultivated arable land. The Nile River is virtually the only source of clean water in the country. Owing to the Sudan's ecological, cultural and economic diversity, three regions can be distinguished, namely: Greater Khartoum and Port Sudan in the northeast, Greater Darfur in the northwest and Southern Sudan. The economic and political centre is Khartoum and Port Sudan. It is the country's wealthiest and most developed region. Greater Darfur has been traditionally poor, despite favourable agricultural conditions. Battered by conflict, South Sudan remains the poorest and least developed region.

(a) *Human development*

According to the 2009 Human Development Index, the Sudan's record on human development outcomes remain weak, ranking 150 out of 182 countries, but with an income per capita that has passed $1000, or roughly 25 per cent higher than the average for sub-Saharan Africa; and economic growth is among the highest in the continent. With a population of 36.9 million people, life expectancy at birth is 58.9 years for women and 56 for men.[101] The country hosts three-quarters of HIV-positive and malaria-infected people of the whole Arab region.[102] The latest available figures on schooling in the Sudan show a significant difference between the sexes. In 2007, 53.6 per cent of boys completed primary education and only 46.2 per cent of girls.[103] However, these statistics do not reflect the stark realities of levels of schooling in different parts of the Sudan. For example, in Southern Sudan, a greater proportion of children are out of primary school than anywhere else in the world.[104] Moreover, the Sudan Household Health Survey (SHHS) reports a mere 1.9 per cent completion rate of primary school in Southern Sudan.[105]

Hunger is a severe problem. Vulnerable households in the Greater Khartoum/Port Sudan area reported a hunger gap of two months; in Greater Darfur, it was four months; and in Southern Sudan, it was five months. While the best indicators of utilization of food are child health and nutritional status, the Sudan is characterized by unusually high wasting prevalence or global acute malnutrition (GAM) prevalence, often above the emergency national threshold of 15 per cent. This can be attributed to an association of impediments and interacting factors of poverty, poor access to water and sanitation, and the high prevalence of diseases (diarrhoea and malaria, among others), which affect negatively the nutritional situation. The 2006 SHHS found that, nationwide, 31 per cent of children under five were moderately underweight. More than half of Greater Darfur's estimated population of 6 million people is directly or indirectly affected by a conflict. In addition to the above estimates, the descriptive assessment of secondary data in the Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2007 report suggests that the Annual GAM rates range from 10 to 18 per cent in north the Sudan, from 10 to almost 30 per cent in Greater Darfur and from 15 to 30 per cent in Southern Sudan.

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[101] UNDP (2009).

[102] Ibid.

[103] UNICEF (2009a).

[104] Save the Children (2007).

[105] Central Bureau of Statistics in the Sudan and the Southern Sudan Commission for Census, Statistics and Evaluation (2006).

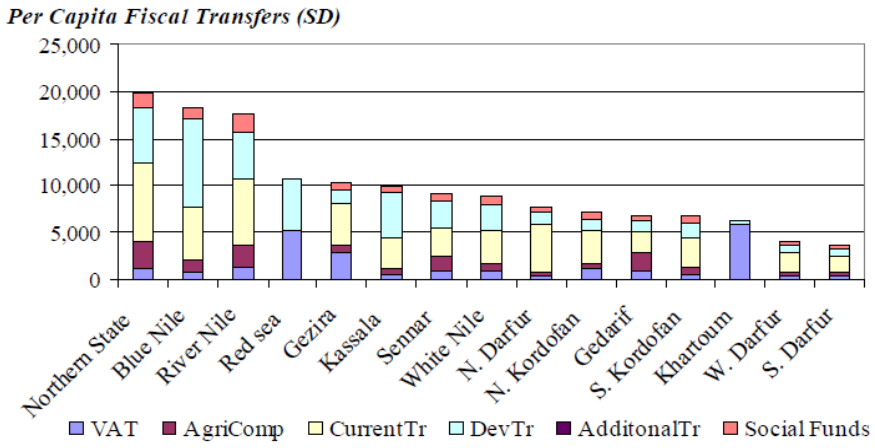
A household health survey was conducted in 2006 and a new household budget survey has recently been conducted with the assistance of the African Development Bank. Both are welcome efforts that will help to shed light on the poverty dynamics of the country and inform policy decisions and strategies.

(b) *Economy*

In the past decade, the Sudan has been one of the fastest growing economies in Africa able to maintain macroeconomic stability and trade openness. However, the country has still a very poor infrastructure base exemplified by the lowest road density in the continent. Oil revenues have been volatile and much of its production is of a lower quality and, therefore, fetches lower prices in international markets. Together with low levels of both regular tax revenues and institutional capacity of fiscal authorities, this has caused serious problems in budget forecasting, formulation and execution. The public financial management system in Southern Sudan is being established from scratch. A cumbersome payroll in the public administration and relatively high military expenditures siphons off budget that could be allocated for investments in roads, schools, irrigation systems, healthcare facilities that the country desperately needs, especially in the poorest rural areas.[106] However, an increasing share of the federal budget has been allocated for public investment in a few large projects in irrigation, transportation and energy. Despite these recent developments, the Sudan does not have a comprehensive and effective public investment programme or a poverty reduction strategy programme (PRSP); and there is therefore a lack of a coherent set of pro-poor policies.

Large regional disparities in the achievement of key MDG indicators have been registered throughout the country with the poorest and conflict-affected regions being characterized by relatively very low levels compared to the rest of the continent. High levels of geographic disparities are also reflected in uneven access to infrastructure with Khartoum consuming, for instance, around one third of the total electricity produced in the country and availing itself of 8 bridges over the river Nile vis-à-vis 8 more bridges scattered along the remaining 1,500 km stretch of the river (World Bank, 2010). Large disparities also exist in the resource allocations to the federal states. However, reforms towards fiscal decentralization have devolved basic service delivery and resources at the sub-national level, thereby encouraging pro-poor spending that increased from $16 per capita in 2000-2004 to $68 in 2006, which is equivalent to 5.5 per cent of GDP albeit still below the average of 7 per cent of neighbouring countries.[107]

Figure 13. Per capita State transfers, 2006



Source: The World Bank (2007).

[106] WDI data show that in the biennium 2005-2006, the Sudan spent about 4.2 per cent of its GDP on military expenditures compared to 3.7 per cent in the health sector and 1.3 per cent in the education in 2005. The World Bank (2007). Military expenditures constituted about one-fifth of total Government expenditures in 2006.

[107] In 2006, neighbouring Ethiopia and Uganda allocated 19 per cent and 11 per cent, respectively, to poverty reducing spending. Ibid.

(c) *Agriculture and land*

Most households depend on income from agriculture, with 73 per cent in Southern Sudan, 60 per cent in Greater Darfur and 40 per cent in the Khartoum/Port Sudan area. Smallholder farming dominates agriculture; and 40.1 per cent of livelihood activities is in the agricultural sector and is region specific. Overall, agriculture provides employment for some 70 per cent of the population; generates around one-third of the country's GDP;[108] and provides precious foreign exchange earnings through a diversified basket of exports mainly directed to the Gulf countries, including, for example, cotton, gum Arabic, sorghum, sheep, sesame and, more recently, sugar, besides an untapped potential in grains, fruit and vegetables, coffee, and tea).

At 4 million hectares, the Sudan has the largest surface of agricultural and irrigated land in the ESCWA region and the whole African continent and is characterized by a much larger untapped land potential. There is also potential for the development of the timber industry, especially in the South, with about 50 million hectares of exotic forest species.[109] However, agriculture suffers from low productivity and high marketing costs,[110] which is exacerbated by distorting taxation, monopolies and the loss of export competitiveness caused by the appreciation of the Sudanese currency. Considerable potential for productivity growth lies in the high value-added livestock sector, and therefore in the leather industry which represents one of the largest livestock in the whole of Africa, if pastoral conditions, herd management, and slaughtering techniques can be improved. An important part of improved pastoral conditions will need to come from better management of rangelands, improvement in land policy, reduction of the tax burden on herders who are taxed more than crop producers, and more stable trade regime with Saudi Arabia which is the main importer of Sudanese sheep.

The high cost of bringing crop and livestock products to regional and international markets compounds the problem of low productivity. The isolation of farmers in many parts of Southern Sudan is even more severe than in the North. But even when distances and related transport costs are not an issue, marketing chains can be relatively long due to multiple intermediaries that take advantage of market inefficiencies to raise prices without adding value during their transactions. Taxes and a myriad of charges contribute to raise prices without specific services in turn.

Land ownership in the Sudan is characterized by multiple and overlapping institutions and legal regimes and is a highly contentious issue and a major source of tension and conflict in the country. The current complex delineation of powers among GNU, GOSS, state, and sub-state authorities over land regulation and administration poses a serious bottleneck to a comprehensive and modern land policy in the country. Government land tenure laws which generally do not recognize customary land rights, are a colonial inheritance. They have been further strengthened by the Unregistered Land Act of 1970 and the Civil Transaction Act of 1984, both of which have enabled domestic elites to acquire land sometimes at the expense of local people and of traditional farming systems. In the Sudan, this maybe a root cause of conflict. For example, the expropriation of land for the use of large mechanized farming schemes resulted in the

[108] In the 1990s, agriculture accounted for about 40 per cent of the national GDP.

[109] The timber industry may have high poverty reduction impacts given its labour-intensive content and that growers are largely located in poor rural areas. Particularly the gum Arabic production has huge potential that has been stifled until 2009 because of the monopoly regime established for its export.

[110] Yield in irrigated and semi-mechanized rainfed crops have registered a deteriorating trend over the past two decades. Irrigation intensity, i.e. cropped area as percentage of irrigable area, is often less than 50 per cent. Poor management of the irrigation schemes has been reported as one of the main reasons for stagnant yield levels despite considerable government budget support. Delayed credit, which in turn delays planting and results in lower yields, is another reported cause for low productivity. Also decisions about export license controls, which applied particularly to sorghum, tend to come late in the planting season, which has a negative impact on yields. Yield gaps between research and farmers' yields illustrate the possibility of doubling such yields for wheat, sorghum, and cotton. Yield gaps are even higher in some rain-fed areas such as North Kordofan where farmer yields as a percentage of research yields were only 8-9 per cent for sorghum and sesame.

disenfranchisement and displacement on a massive scale of farmers and pastoralists in the Nuba Mountains in the late 1980s (Pantuliano, 2007, 2009; Alinovi, Hemrich, and Russo, 2007). Oil concession areas have also suffered from large displacements of local people.[111] The Land Act of 1972 stipulates that almost all land in the Sudan is Government land[112] and local communities have usufruct rights to this land through traditional communal land policy based on which community leaders are responsible for the allocation of land use rights. Consequently, the value of land cannot be used as collateral for loans because it remains the Government's land and, therefore, land has no value as security for additional investment on that land and therefore represents a major constraint to the flexibility and efficiency of allocation of factors of production[113] In Darfur, many transhumant camel herding tribes do not own land on the basis of the system that was built by the British administration. Repeated and devastating droughts have left many pastoralists impoverished and this has contributed to the escalation of violent assaults by landless tribes against land-endowed groups. A huge portion of land in the South is owned by communities where customary law governs land management and transactions, and no verifiable record is maintained discouraging private investments. Skirmishes between pastoralists and farmers have resulted in low levels of cultivation. The Land Commission in the South drafted a Land Act that was approved in 2009 and is supposed to help bring more flexibility and efficiency into the system.

Addressing all these constraints will require investments in research; rationalization of taxes and fees; reforms in the management of the irrigation schemes in favour of water users associations; and policy reforms of land, export licenses and monopolies in order to make agricultural markets work more efficiently and reduce a potential source of conflict. While the Agricultural Revitalization Programme of 2008-2012 contains many of these actions, it is too soon to measure its implementation and effectiveness.

(d) *Conflict and food security*

The Sudan has been at war almost continuously since independence. Since 2005, the north and south have maintained a fragile peace treaty. Yet, in 2003, fighting began between African and Arab Sudanese over increasingly scarce farming and grazing land in the western region of Darfur. Some analysts refer to the Darfur conflict as the first climate change conflict. Since independence, almost two million people have died directly as a result of the conflict; and some estimates place the number of internally displaced at six million. In 2009, 2500 people died as a result of conflict and a further 350,000 people were displaced in Southern Sudan.

Insecurity and conflict have been identified as major contributing factors to food insecurity in the Sudan.[114] The most affected areas are the conflict region of Southern Sudan and Greater Darfur. Southern Sudan remains the poorest and least developed region in the Sudan and one of the poorest and least developed regions in the world. Great Darfur has traditionally been poor, even during pre-conflict, despite two of its three states being surplus food producers and the region itself being a primary source of trade revenue from livestock. Efficient farming has become impossible and many fields cannot be harvested. The marketing infrastructure for the distribution of farm produce has collapsed.

Further exacerbating problems, the country has been hit by droughts. The conflict-drought combination made almost half the population of the South food insecure.[115] Based on estimates of February 2010 from United Nations food agencies and Southern Sudan's Ministry of Agriculture and Forestry, the

[111] Pantuliano (2007).

[112] Even today it is estimated that some 80 per cent of the whole land belongs to government (Pantuliano, 2009).

[113] Turning the State-owned land in long-term lease could help to develop markets for land and leverage collateral for loans resulting in a large capital injection into the rural economy. Recently, the Gezira Act has provided for tradable leases which allow land to be used as collateral in the area under the Gezira irrigation scheme.

[114] WFP (2007).

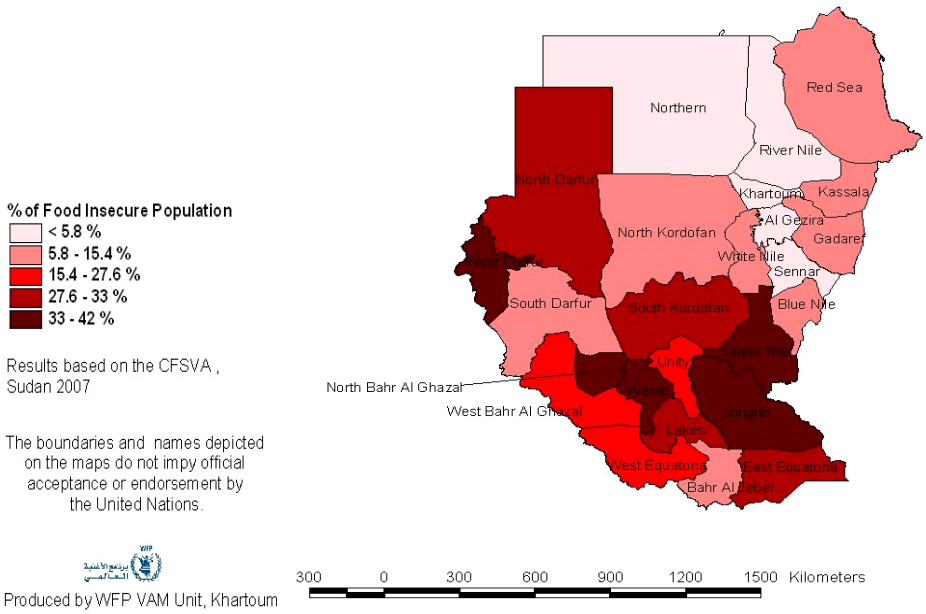
[115] WFP (2010).

number of people in Southern Sudan in need of food assistance has more than quadrupled from almost 1 million in 2009 to 4.3 million this year owing to conflict and drought. Southern Sudan imports large volumes of food from neighbouring countries and, given that the region is landlocked, increases in food import prices are compounded by increases in fuel and transport costs.[116] While the Sudan is one of the biggest recipients of food aid, it is reported to have produced large cereals for export for several years.[117]

The impact of the conflict on domestic markets has been severe. The transport of goods is restricted between areas controlled by the parties to the conflict; checkpoints are frequent; and there is double taxation when moving between these opposing areas. This has led to market fragmentation, increased transport costs and general increase and high variation in prices. In 2008, for example, the consumer price index showed that Sudan experienced high inflation levels amounting to 14.3 per cent. The grain trade in local markets has been replaced by trade in food aid which has helped keep prices stable.

The Government of Southern Sudan has developed more comprehensive response strategies to the food crisis with the assistance of the World Bank and United Nations agencies. The short-term response strategy focuses on establishing an inter-ministerial Food and Nutrition Security Council (FNSC) to guide policy development; targeting safety net programmes to meet basic needs; enhancing the rapid impact of agricultural interventions to assist poor farmers; and mitigating the "domestic pass-through of global price rises" to ensure a consistent supply of imported foods in the future.[118] The mid- to long-term response endeavours to boost domestic food production and invigorate markets in Southern Sudan, including improving rural infrastructure and establishing strategic food security reserves, and scaling-up and strengthening agricultural production systems.[119]

Figure 14. Geographic distribution of food insecurity in the Sudan



[116] The World Bank (2008a).

[117] Ibid.

[118] Ibid.

[119] Ibid.

4. *Yemen*

(a) *Human development*

Yemen is the poorest Arab country and is one of the poorest countries in the world. It is ranked 140 on the Human Development Index (HDI), and 122 on the Gender Development Index (GDI). The current percentage of the poor dropped from 40.1 per cent in 1998 to 34.8 per cent in 2005/2006; and in rural Yemen, poverty declined from 42.4 per cent in 1998 to 40.1 per cent in 2005/2006.[120] More than 60 per cent of the adult population has not attained any education. In rural areas, 85 per cent of adult females have not attended or completed primary school.[121] Half of the Yemeni population is under the age of 15.

One major reason for poverty in Yemen is its population growth rate. Based on UNDP estimates, the country has one of the highest population growth rates globally. At a growth rate of 3.02 per cent, the population is expected to double in 23 years to almost 45 million people. High fertility rates are a severe burden on households at the micro level and on labour markets at the macro level.

Some 18 per cent of households surveyed by WFP in 2008 reported that they had been compelled to take their children out of school owing to the deteriorating economic situation and the consequent inability of poor families to pay school fees or the increasing cost of sending their children to school rather than sending them to work. There is therefore some debate as to how the Government will maintain its minimum of social services in the light of this dismal outlook.

Formal social safety nets in Yemen are only a recent development, having been established in 1996. They include a social welfare fund, which is by far the largest governmental programme; a fund to promote agriculture and fisheries production; a fund for social development; a public works project; a poverty alleviation and employment programme; a food security programme; and a special initiative for the southern governorates.[122] In response to the economic crisis, Yemen has created a workfare programme building on an infrastructure-based social fund and is currently reforming and expanding its cash transfer programme.[123] In the past, there have been concerns with regard to the effectiveness of the social welfare fund cash transfer programme and its targeting system. Efforts to improve its efficiency seem to be underway and the 2008 WFP rapid assessment showed that around 32 per cent of surveyed households had received some type of cash and/or in-kind assistance. However, the same report notes that the social safety nets programme is poorly targeted.

Chronic food insecurity and malnutrition continue to be a main concern, challenging the attainment of MDGs at the national level. This is clearly manifested in under-five child malnutrition rates of 46 per cent and rates of maternal mortality, which are among the highest in the world at 366 per 100,000 live births.[124]

(b) *Economy*

Economic growth averaged 3.8 per cent during 2000-2006 and accelerated during the fuel crisis in 2008. However, the recent oil-driven growth has not been pro-poor. The financial crisis and the drop in oil prices in 2009 have sharply reduced growth, thereby compounding the poverty effects of the food crisis. In the same year, poverty increased to 42.8 per cent, representing an increase of 8 per cent from 2005-2006. Recent conflicts and natural disasters make the picture even more desperate.

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[120] The World Bank (2009a).

[121] MOPIC and IFPRI (2010).

[122] UNDP (2009).

[123] The World Bank, FAO and IFAD (2009).

[124] WFP (2009c).

Approximately 30 per cent of the workforce is employed in the public sector; and the economy is dominated by non-tradable services and the oil sector. PRSP has identified several priorities areas for improving infrastructure, namely:[125] water production for domestic uses, expanding the scope of wastewater sanitation services, rehabilitating existing power stations, increasing investment in electricity generation and distribution, and the construction of a road network to link industrial and agricultural production centres. Results from a dynamic Computable General Equilibrium model by IFPRI show that increased public spending in education, health and the agricultural sector would positively affect the country's economic growth through an increase in Total Factor Productivity.[126] This could be achieved through more effective official development assistance (ODA) and/or through partial reallocation from other economic and functional categories towards these sectors.[127]

In 2008, the consumer price index showed that Yemen experienced high inflation levels amounting to 19 per cent, owing partly to the food crisis given the high dependence on food imports (measured as a percentage of total imports). In fact in the same year, the food CPI increased more than threefold compared to 2000 levels. The total exports/food imports ratio dropped from 10 to 4 in the period 2000-2007, clearly deteriorating the country's macro-level food security. This trend is forecast to drop even further in the decade 2010-2020 to around 3.[128]

ODA accounts for only about 1 per cent of Yemen's GDP, which represents a very modest portion compared to countries at the same development level and with other countries in the region, where high levels of assistance tend to be driven by political factors. Further complications result from the fact that Government expenditures rely mostly on sales of crude oil, which are traditionally highly volatile. The dependence of Government revenues on limited oil reserves accounted for 72 per cent of revenues in 2004, more than 86 per cent of export earnings and 13.6 per cent of GDP, which poses another significant source of insecurity with the country's oil reserves expected to be empty by 2017.

Yemen has been gradually running out of oil, fiscal space, economic opportunities for the incoming labour force, and water. Given that agriculture is responsible for the bulk of the country's water consumption and accounts for more than half the labour force, it is difficult to imagine how Yemen will master future challenges without massive aid.

(c) *Agriculture and land*

As opposed to the Sudan, which has a huge agricultural potential, Yemen is far less endowed. Yemen's economy is undiversified and agriculture is wasteful. Agriculture, with the production of qat, fruits, vegetables and livestock, contribute to only 10 per cent of GDP and is characterized by high levels of self-consumption and low productivity, with the exception of qat production. Cereal yields, for example, are less than half the average of other Arab countries. Fisheries are an important source of foreign currency thanks to its export potential, and can contribute to food security whereas such traditional exports as coffee have steadily declined in favour of bananas and vegetables. About two-thirds of the population live in rural areas and are dependent on deteriorating natural resources. While 68 per cent of agricultural households own

[125] Heavy investment in infrastructure generally follows the seminal work of Barro and others on "conditional convergence", based on which the lower the rate of population increase relative to the rate of growth in the capital supply, the more capital may be invested per worker to increase the average output of each member of the work force.

[126] See IFPRI (2007). This has been confirmed at cross-country level in papers by Wilhelm and Fiestas (2005); Fan (2004) and Fan et al. (2006); and Lofgren and Robinson (2004). These find that investment in agriculture, education (human capital), and infrastructure (physical capital) have positive effects on growth and poverty reduction. Investing in agriculture tends to show the highest sector-specific returns in both growth and poverty reduction.

[127] In the period 1996-2002, more than 80 per cent of the total budget expenditure was allocated to current spending with wages absorbing more than 40 per cent of the total. Yemen spent on average 4.65 per cent of GDP in the military sector in the period 2005-2008 compared to 4.20 per cent on health in 2005-2007 and 5.20 per cent on education in 2008. Yemen has the highest military expenditure as GDP percentage among all conflict-affected countries of the region, followed by Lebanon and Sudan.

[128] MOPIC and IFPRI (2010).

some farmland, which represents a key aspect of food security, only 4 per cent of rural households are net food sellers.[129]

The agriculture sector, however, provides livelihood for three-quarters of the population. Up to 95 per cent of Yemen's freshwater resources are used for agricultural purposes, particularly into the water-intensive cultivation of the recreational drug qat, which constitutes about 30 per cent of the total agricultural value-added and uses 40 per cent of irrigation water. Qat has severe adverse effects on food security. Households spend up to 30 per cent of household income on purchasing it and consumers spend six to eight hours chewing it. Qat consumption reduces individual productivity and undermines the accumulation of capital at the household level. Given that arable land is used for the cultivation of qat rather than food, it indirectly contributes to food scarcity and higher food prices.

(d) *Poverty and food security*

UNDP estimates that more than 6 per cent of Yemenis have recently dropped below the poverty line as a result of rising food prices. Given that poverty is a determinant of food insecurity, close to 4 million Yemenis live in households that are considered food insecure, thereby representing 22 per cent of the total population. Food poverty was estimated at 13 per cent, representing almost 2.9 million individuals who cannot satisfy their basic food needs. Estimations by IFPRI based on 2005-2006 HBS data calculate that 7.5 million or 32.1 per cent of the Yemeni population is food insecure, of which about 85 per cent is concentrated in rural areas and two-thirds in the highlands. More than 40 per cent of children are underweight and more than half are stunted with a higher prevalence in rural areas.[130] The 2010 Yemen Comprehensive Food Security Survey confirmed the negative correlation between the food security status of the household and the educational attainment of both its respective head and spouse.

As a result of the 3Fs crisis, poverty has risen to almost 43 per cent nationwide and to almost half of the population in rural areas, which suggests that many poor do not seem to be food insecure.[131] However, HBS data show that poverty was most highly concentrated in rural areas and that more than half of the poor were children. The poverty gap index was equal to 13.2 per cent, the Gini coefficient around 0.42 and the average size of poor households was 8.2.

Following the macroeconomic stabilization programme agreed with the International Monetary Fund (IMF), Yemen has phased out many food subsidies while keeping fuel and agricultural input subsidies. In parallel, as mentioned before, the Government established the Social Welfare Fund aimed at providing cash transfers to the poorest households, with around 1 million beneficiary families in total.[132] Approximately 60 per cent of the diesel subsidy used by households benefits the top two income deciles of the population, while only 2 per cent filters down to the lowest deciles.[133] The total public spending on safety nets is about 1 per cent of GDP compared to 2.2 per cent for the MENA region.[134] Recently, Yemen developed national and sector strategies aimed at addressing food security, namely, the Strategic Vision 2025, the Agricultural Strategy (Aden Agenda), the National Water Sector Strategy and the National Nutrition Strategy.

Yemen's high reliance on food imports, at over 91 per cent of wheat and 100 per cent of rice, to satisfy domestic demand makes it highly vulnerable to food price volatility.[135] In 2008, the population witnessed

[129] IFPRI (2010).

[130] MOPIC and IFPRI (2010).

[131] Breisinger et al. (2010).

[132] According to van de Walle (2002), 57 per cent of the beneficiaries were not part of the target group. Resources are allocated to areas on the basis of population and poverty indicators – when they are available - which also take into account a bottom-up self-selection process from the beneficiary communities. The SWF has recently strived to improve the targeting.

[133] IMF (2005).

[134] Weigand and Grosh (2008).

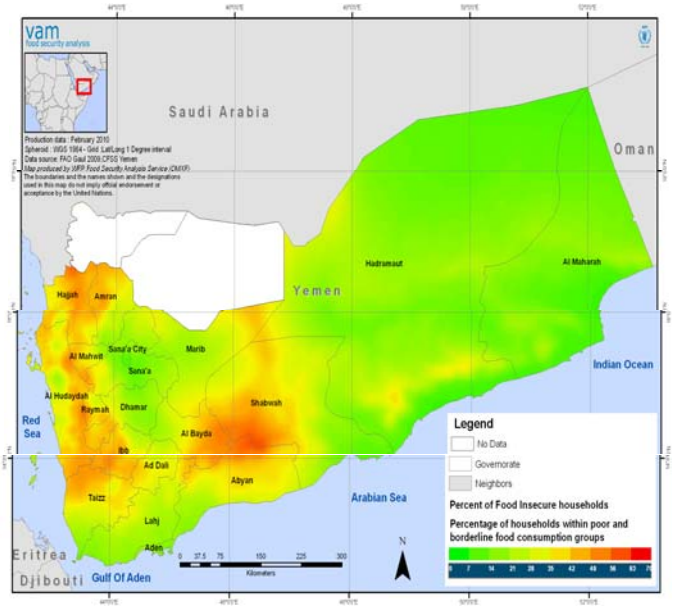
[135] WFP (2008).

the doubling in price of such foods as bread and potatoes; and the price of wheat, rice oil and milk powder increased by 60-80 per cent.[136]

(e) *Conflict and food security*

Yemen is on the cusp of a humanitarian crisis. Recent escalating clashes between rebel and Government forces in Sa'ada and in the southern governorates have prompted a new wave of forced displacement, with the total number of IDPs in the country estimated at 150,000.[137] Displaced communities in IDP camps are particularly vulnerable and highly food insecure, especially women and children who make up 70 per cent of IDP communities.[138]

Figure 15. Percentage of food-insecure households* across Yemen



Source: CFSS 2010.

* Food insecurity equivalent to poor or borderline food consumption based on WFP CFSS 2010.

[136] Ibid.

[137] IRIN (2009).

[138] Ibid.

III. REGIONAL POLICY REVIEW AND RECOMMENDATIONS

A. FOOD SECURITY AS A REGIONAL PUBLIC GOOD AND THE SUBSIDIARITY PRINCIPLE

Food insecurity undermines the productivity of individuals, imposes social costs by means of premature death or disability, prevents the discovery of new economic activities and impedes regional economic development. In many parts of the ESCWA region, food insecurity is the consequence of a social and economic environment that is not peaceful, stable and enabling. Creating this environment is a regional public good.

The issue of food security could therefore prove a significant rallying point for the region. Ensuring food security for the region can be considered a strategy for conflict mitigation; given that food security is a cross-cutting issue, its effects are also cross-cutting. Almost as importantly, the process of regional cooperation required to address the regional threat of food insecurity could provide the stimulus for real and meaningful regional cooperation. Working towards food security for the region through regional strategies with the support, where appropriate, of the international community rather than through a plethora of poorly coordinated international interventions, is one way of mitigating both intra- and inter-State conflict.[139]

In order to create this environment for managing food security, sustainable political mechanisms which are guided by the subsidiarity principle are needed. In its pure form, subsidiarity combines individuality with solidarity. It states that problems should be ideally solved by those directly involved, which in the most extreme case may be the individual. Similarly, if a problem affects a group, the solutions should be developed by the group concerned. Subsidiarity guarantees that the knowledge and ownership of the solution for a certain problem is also with those who are directly affected by the problem. Subsidiarity is thus essential to promote empowerment and capacity-building from the bottom as opposed to top-down indoctrination. Yet, there may be limits to an individual or a group's ability to solve problems independently. In such a situation, solidarity becomes important. Solidarity, of course, must go beyond altruism. Whereas altruism makes the giver worse off and the aid recipient better off (a zero sum game), solidarity should make both giver and taker better off (a positive sum game).

If ESCWA member countries are open to it, the subsidiarity principle could prove a useful tool for both conflict prevention (inter- and –intra-State) and for strengthening food security when used in regard to service delivery to populations, particularly rural and disaffected populations that, as highlighted in chapter II, illustrate the poverty-conflict nexus most strongly. Not only does the local provision and control of services make it more likely that populations receive the services they most require, but it prevents non-State actors from filling the vacuum and creating a "state within a state", thereby challenging traditional concepts of national sovereignty.

The subsidiarity principle could prove equally useful for countries with regard to food security and conflict prevention when applied to the context of regional cooperation. Once more, if countries are guided by the idea that regional problems need to be solved regionally rather than through international interventions, it could give countries ownership over the policies that are needed to address such common threats as food security. For instance, it makes little sense to invest heavily in peace-building and development in Iraq without simultaneously handling the consequence of this conflict in its neighbouring countries. Isolated peace-building initiatives in unstable corners of the region are at best suboptimal. Unfortunately, the Arab world in general and the ESCWA region in particular do not have a long tradition of cooperation. While most countries pay lip service to the idea of deeper Arab economic integration, political practice has often been different. Most countries in the region have been preoccupied with their own national consolidation, which has left little political will for and even reluctance towards developing and managing regional commitments. At independence, many countries embarked on a development path with

[139] See Geinitz and Reinhard (2002).

unresolved national or international conflict, which Henry and Springborg (2001) attribute to a non-finalized dialectic of the colonial legacy in the region.

Another factor that has stood in the way of a regional economic deepening was the tendency for socialist-flavoured development concepts that prioritized building strong public sectors over building strong markets. Moreover, the regional production profile did not tend to favour regional cooperation. In the oil-rich countries, opportunities for the extraction of substantial oil rents meant that the creation of economic returns from productive economic activities was not an immediate economic policy priority. Finally, latent and actual conflicts, stemming from the Arab-Palestinian-Israeli conflict, have discouraged regional investments into greater regional socio-economic cohesion.

However, neither the oil-rich or diversified economies nor, clearly, the conflict countries of the ESCWA region can modernize their economies without taking advantage of regional complementarities, a regional division of labour and regional public investments. There is little doubt though that unless the region succeeds in resolving conflict and freeing its regional economic integration potential, it will not be able to reduce food insecurity. By the same token, freeing the region's development potential will be necessary to divert people from conflict to economic activity. From an economic perspective, the objective must be to make conflict prohibitively costly. This stimulus must mostly come from the region. Regional political cooperation and institution-building are the most promising strategies to overcome conflict, promote peace and stability, and create a new regional political identity. The experience of the European integration process may serve as a reference model for the ESCWA region. It has shown that public investments in overcoming regional disparities pay both a peace and an economic dividend.

In the light of high food import shares, the region must become economically stronger and more successful in its outward-orientation. While exports of natural resources could still pay for rising food import bills in oil-rich countries, the need for economic diversification is already tangible there too. In more diversified economies, economic modernization is even more urgent. In conflict-affected countries and territories, it is crucial. As Sachs notes, the "only way to sustainable peace is through sustainable development".[140]

The Arab world is clearly aware of the need for greater cooperation to enhance food security as evidenced by the Riyadh Declaration to Enhance Arab Cooperation to Face World Food Crises of the Arab Organization for Agricultural Development (AOAD).[141] The Declaration acknowledges the many threats to food security in the Arab world, including rapid population growth, substitution of food for feed and fuel crops, public neglect of agricultural policies, climate change, water scarcity and external threats. It emphasizes the need for greater regional trade integration and articulates high expectations in the creation of the Greater Arab Free Trade Area (GAFTA), which was planned for 2005 but has suffered from delays and shortfalls in its implementation. This should be followed by a customs union and common Arab market. The Declaration with a ten-point action plan can be summarized as follows:

(a) Launching production, capacity-enhancement programmes;

(b) Encouraging public and private investment;

(c) Stimulating regional investment projects;

(d) Initiating support programmes to most vulnerable countries;

(e) Maintaining awareness for food security issues in the Arab world;

(f) Promoting intraregional trade in agricultural products;

[140] Sachs (2007).

[141] See www.aoad.org/strategy/RiadhDeceng.pdf.

(g) Intensifying regional and international cooperation;

(h) Drawing a roadmap towards an Arab common agricultural policy;

(i) Directing the attention towards the risks of biofuel production;

(j) Persuading media institutions to support the Declaration.

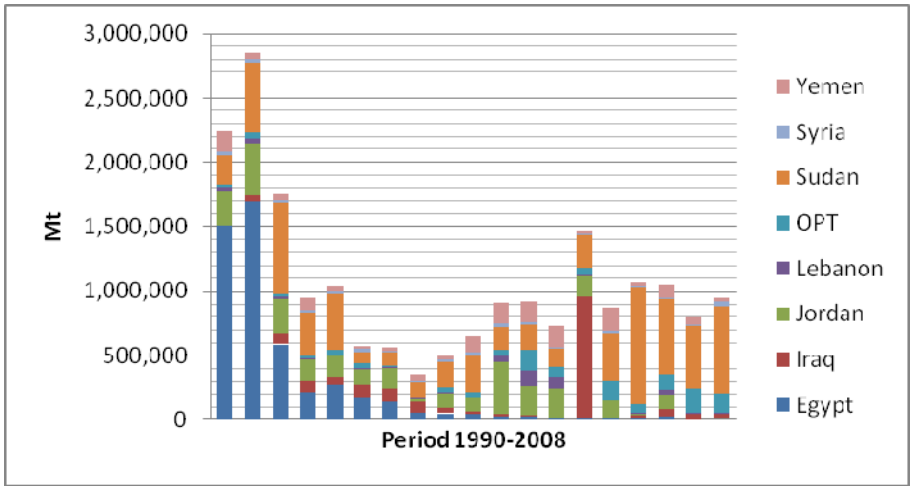
These are clearly welcomed objectives. It is important now that these objectives are followed up by specific actions. Among the ten action points, production enhancements programmes, promotion of regional programmes and the initiation of support programmes to vulnerable states are of particular importance to conflict-ridden countries.

B. Food aid and livelihood programming in conflict-affected areas

Chronic and new vulnerabilities in the ESCWA region characterized by complex and protracted conflict situations, combined with expected increase in natural disasters and demographic trends point to a high humanitarian caseload in this part of the world for the foreseeable future. Regional political stability is further threatened by inter-State disputes over such vital resources as land, water and energy. Humanitarian space remains limited also by low preparedness levels and low response capacities stemming from poor budgets, limited institutional capacity and inconsistent political will to collaborate with international aid systems. As a result, the region hosts about 3 million IDPs and two among the largest refugee groups in the world, namely, Palestine and Iraq, thereby eroding social networks and placing a further burden on infrastructure and the whole society in the host countries.

Worldwide, food aid – more than 80 per cent of which are cereals on average – accounts for a very little share of annual food flows and has declined from over one-fifth of total bilateral ODA in the 1960s to less than 5 per cent in the 1990s. Food aid amounted to about 14 million MT in 1988 and dropped to about 6 million MT in 2008. Its emergency assistance component has increased relatively at the expense of development programmes. The United States of America alone has been providing more than half of total food aid and WFP has been channelling more than half of it, at 73 per cent in 2004, mainly through NGOs. Consistent with the global trend, food aid inflows into the region have markedly dropped in the same period, with the notable exception of Palestine and the Sudan. Yemen displays a particularly volatile trend. This regional downward trend has particularly been led by Egypt, which has seen its inflows dropping from about 1.5 million MT in 1990 to virtually zero currently.

Figure 16. Food aid trends in the ESCWA region, 1990-2008



Source: Staff calculations based on WFP data.

TABLE 13. TOTAL FOOD AID DELIVERED TO THE ESCWA REGION
(*Metric tons*)

Recipient	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008
Egypt	1,512,350	182,297	30,540	28,451	9,098	16,253	10,619	11,632	29,395	2,277	5,599
Iraq	0	89,843	19,463	8,978	11,123	936,696	10,379	32,778	58,427	47,298	46,199
Jordan	256,056	121,125	400,666	225,592	226,246	162,264	126,859	3,319	110,470	4,399	5,091
Lebanon	41,038	9,463	42,400	118,176	94,106	10,000	0	12,000	35,734	1,921	3,193
Palestine	22,415	37,645	51,448	164,613	68,077	53,520	152,535	63,993	117,539	184,973	146,219
The Sudan	223,912	80,936	180,797	198,795	147,476	253,725	376,408	913,235	590,793	492,645	673,155
Syrian Arab Republic	29,878	33,507	26,920	13,188	7,569	9,418	13,152	7,609	4,258	7,844	43,827
Yemen	151,122	13,890	160,972	162,079	162,969	34,170	180,238	19,548	100,168	55,094	26,393
Total	2,236,772	568,705	913,206	919,872	726,664	1,476,047	870,190	1,064,114	1,046,783	796,450	949,676

Source: Staff calculations based on WFP data.

Food aid is an essential resource for responding to situations underpinned by significant food availability shocks and market failures. Food aid is mainly provided to meet basic food needs and its coverage on a conflict-affected territory has an important role in keeping low the price of food, thus increasing access to food for those not included in the distribution system, and in helping people to remain in their areas of origin. In fact, the emergency assistance has been providing life-saving services to the beneficiaries of many conflict-affected countries and territories, including Palestine, the Sudan and Yemen. Studies on the Darfur crisis have highlighted the importance of food aid during the emergency phase and, soon thereafter, in helping to stabilize the general situation. WFP alone has supported more than 4 million people in the Sudanese region over the past five years.

However, sometimes there have been reported shortcomings and inefficiencies linked to bilateral food aid in responding to crises. More specifically, these include the following: (a) potential political use of food aid by donors that are not always motivated by humanitarian needs;[142] (b) the restricted basket of available commodities, which sometimes has created difficulties in providing socially and nutritionally appropriate rations; (c) past bilateral food aid has mostly been subject to restrictions on procurement modalities and associated service delivery; and (d) sometimes the late arrival of emergency aid[143] may have contributed to hampering post-crisis agricultural recovery,[144] with the resulting risk of being pro-cyclical rather than countercyclical.[145] While these shortcomings can happen sporadically, one has to bear in mind that the unintended consequences of food aid may have only happened on limited scale as a country's food demand, even if in conflict, is generally met by market and domestic production.

[142] Sometimes food aid has been provided as a result of overproduction from OECD member countries. Lately, some of these countries, particularly those in the EU, have proposed that anything other than emergency food aid should be considered an export subsidy.

[143] The policies and practices of donors can sometimes hamper timely responses. Not all appeals are heard and addressed by donors based on early warning systems that are set up by the relief agencies. With the exception of sensational calamities, such as the 2005 tsunami or Haiti's earthquake in 2010, donor response can be slow and time spent for requests, formal approval and delivery can take up to a few months unless the emergency catches the attention of the media, rousing public opinions which in turn make pressure on their respective governments. This is typically the problem which conflict-affected populations have to face on top of the humanitarian disaster they have to cope with. While the United Nations established the $50-million Central Emergency Revolving Fund (CERF) in 1991, which was tripled to $150 million in 2005 and serves as a catalyst for field-level coordination, such funds cannot be mobilized until the applicant agency secures a donor to pledge to reimburse the requested amount to the Fund, thereby limiting autonomy and timeliness of agencies' capacity of rapid response.

[144] OECD (2005).

[145] For example, past delivery of food aid at harvest time may have undermined some local markets in Southern Sudan. For a review of the listed issues associated with food aid operations in Southern Sudan see, for example, Maxwell, Sim and Mutonyi (2006).

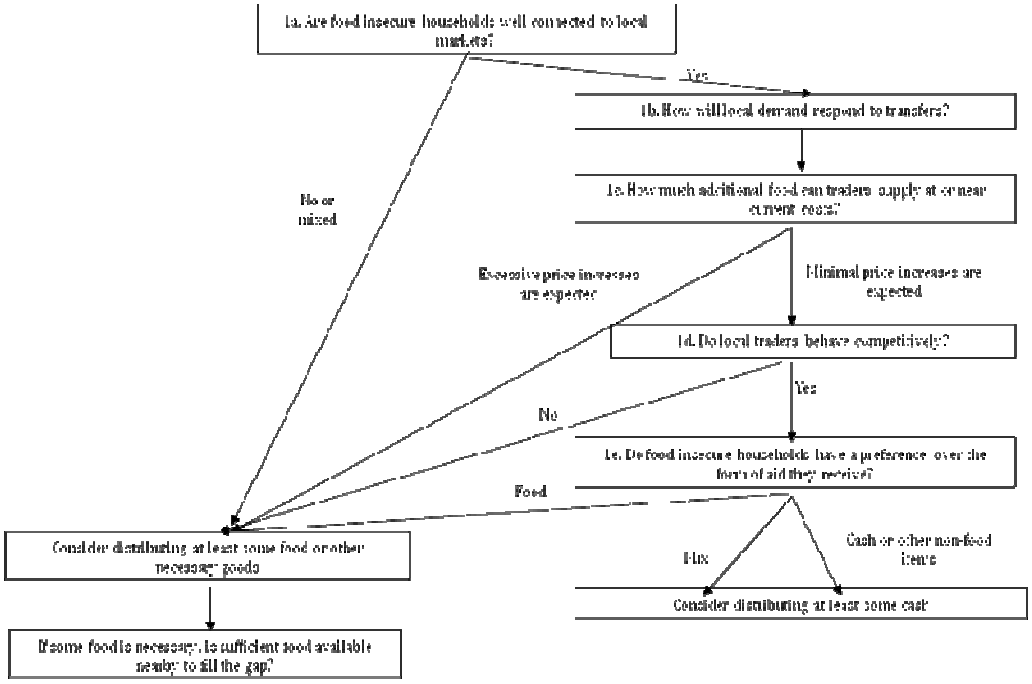
While having immediate access to large quantities of cereals of standardized quality is crucial in the context of humanitarian operations in terms of providing tied aid, the availability of locally or regionally produced and preferred commodities needs to be at the centre stage of the design and implementation of food aid operations in order to avoid the risk of dependency and lack of sustainability of the operations themselves.

In-kind food aid may increase the immediate availability of food at a greater rate than its demand based on the Engel's Law principle. The consequence of it is that local food prices would tend to fall if markets are segmented, that is, for example, poorly integrated with broader national or international markets owing to low population density, poor infrastructure, high transport and marketing costs in rural areas; and/or some commercial purchases may be crowded out. The extent of the price drop will depend on the level of inelasticity of the demand. Food aid is typically characterized by high transactions costs that lead to a generalized preference for financial aid, except in specific circumstances (typically in a post-conflict situation) where markets perform poorly, local agricultural production and distribution systems are disrupted, there is very limited freedom of movement and accessibility to markets, and in areas where there are likely to be structural or high inflation spirals. Cash-based aid, on the other hand, tends to expand local food markets and distribution channels as long as they are well integrated in wider markets.

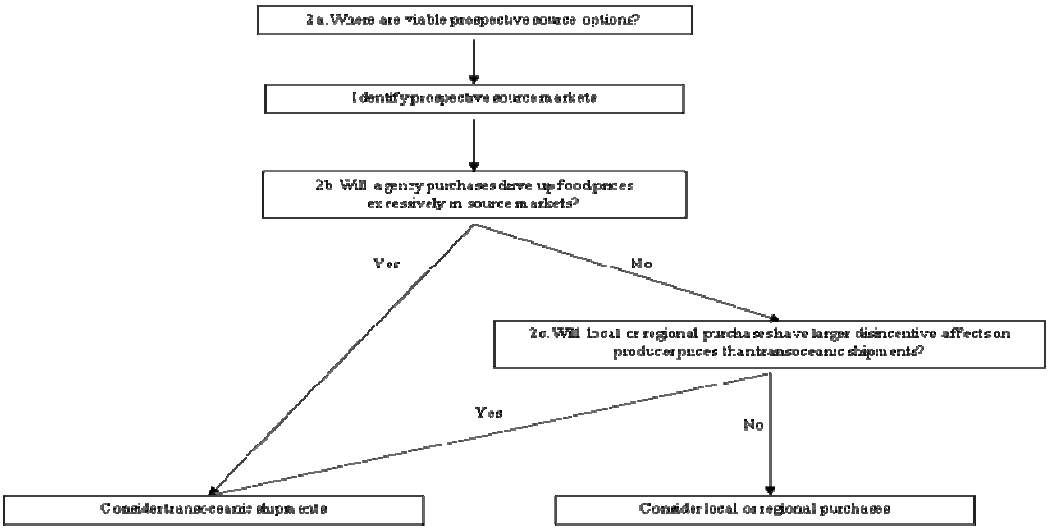
The above questions are typically analysed in a market and response analysis (MRA) framework, which can be used to assist food aid agencies to identify the most appropriate aid response to a situation of acute or chronic food insecurity. Usually there are two components to the MRA framework, namely: the first analyses the context in which local food markets operate (the typical question that this component will try to address would be if local markets function well); and the second analyses the behaviour of market players (in this case the typical question that this component will try to address would be if there are viable sources of food availability in the area). The figure below illustrates the logical framework, which was developed by Barrett and Maxwell (2005), and highlights the decision tree tool based on the two components upon which a proper response analysis might be based.

Figure 17. Components to the MRA framework

Component 1



Component 2



Sources: Barrett and Maxwell (2005); and Barrett, Lentz and Maxwell (2007).

As aid becomes increasingly concentrated in relief operations, a clear trade-off emerges between acute and chronic aspects of food insecurity and poverty. The risk is to deal with structural issues underlying poverty by means of emergency operations; in summary, the risk is to tackle the poverty trap with the emergency trap. Given the resource uncertainties, the logic of development planning is to use food aid to complement other resources within recovery plans and sectoral programmes, rather than to look for ways of drawing other resources into strengthening food aid supported projects.

Food aid can be typically affected by errors of exclusion, inclusion and wrong timing.[146] If not tailored to local uses and culture, it may also distort local consumption patterns. Addressing these risks would normally lead to reach the needy with the highest income elasticity of demand for food and to less displacement of local and national marketing structure. By doing so, food aid distributed to the poorest will generate minimal market distortions compared to untargeted distribution.

In general and in conflict areas more than in those affected by natural disasters, food aid is particularly challenged as it is delivered in an institutionally deteriorated environment, affected by serious information gaps and difficulty in verifying information. However, this does not seem to be the case in the ESCWA region's conflict-affected countries where WFP has conducted regular and comprehensive Food Security Analyses based on thorough household-level information. Moreover, the absence of local and representative institutions and the presence of interest and capture groups have increasingly exposed food aid and its operating staff/implementing NGOs as a tool in the hands of opposing factions. Food deliveries have been obstructed or manipulated against some factions and in favour of others to build loyalty to a military group or to influence elections (FAO, 2008; Alinovi, Hemrich, and Russo, 2007). In some cases, they ended up augmenting military supplies or as a source of revenue for some of the parties in conflict. In many cases, access to affected civilian populations has to be negotiated with the parties to the conflict and agreements are often not respected or have to be renegotiated at the local level due to some uncontrolled gangs present on the territory. Humanitarian operations may also respond and may be coordinated by the Special Representative of the Secretary-General, when present, who is typically a politically-charged figure. All of this can lead to the perception of the so-called "politicization of food aid" and to a confusing overlap of

[146] Food aid shows itself particularly challenging in the most remote areas within food-insecure regions often due to resource constraints of implementing agencies. See WFP (2005).

humanitarian, strategic and political objectives.[147] This results in increasing the risk of the humanitarian operators as being seen as a non-neutral party as in the case, for example, of Palestine,[148] the Sudan and, even in terms of military operations, of Iraq.[149] Moreover, post-distribution monitoring has been limited in most conflict-affected countries owing to security reasons or inadequate resources.[150] On top of all this, resources allocated by donors often tend to wane after few months, thereby forcing dramatic cuts in rations and resources to attend protracted pressing needs.[151]

In a post-conflict and recovery context, food aid can also be used in support of safety nets aimed at reducing the vulnerability of participants to adverse shocks and protecting their broader portfolio of productive assets and their recovery capacity when they suffer shocks.[152] Insofar as food aid provides timely transfers when recipients are cash-stripped, it can obviate binding seasonal liquidity constraints, enabling smallholders to undertake productive investments. Furthermore, food aid deliveries into remote areas can temporarily relieve transport bottlenecks, thereby reducing marketing costs for local producers through a de facto transport subsidy.[153]

Moreover, an effective approach to disaster risk management seeks to allocate resources that can be quickly mobilized in the event of a disaster. Establishing contingency funding in the event of a disaster in a vulnerable area can help to ensure a timely and transparent response. The new project, entitled "Climate and Disaster Risk Solutions", focuses on creating a sustainable Africa-wide natural disaster risk management system to link risk analysis, delivery of emergency assistance and contingency funding.[154] It may be worth exploring if a similar initiative could eventually be implemented in the Arab or MENA region, possibly with regional funding.

The Arab region lacks an effective regional food security monitoring system. The League of Arab States and UNDP have recommended that such a system should be set up within an League of Arab States

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[147] See de Waal (1989 and 1997), Keen (1994), Macrae and Zwi (1994), Stewart (1998), and Barrett and Maxwell (2005). This emphasis traces back to the evaluation of the unintended impacts of the 1994-1996 relief efforts in the aftermath of the Rwanda genocide. Since then "do no harm" has become a mantra in the international humanitarian community.

[148] For a review of the issues, see Fast (2006).

[149] "The perceived neutrality, impartiality, and independence of genuine humanitarian action is threatened in Iraq by blurred distinctions between military, political, commercial, and humanitarian roles". Hansen (2007). Reconstruction failures, waste and corruption have been well-documented, not least by the United States Government's own watchdog agency for Iraqi reconstruction, namely, SIGIR, which is available at: www.sigir.mil/. See also Glanz (2007). For a representative sampling of views and perspectives, see also Minear (2003); Brauman and Salignon (2004); Gordon (2003); and Torrente (2004).

[150] WFP (1999).

[151] In October 2005, the Secretary-General Kofi Annan reported that appeals for humanitarian operations had generated on average only 16 per cent of the requested funds. Fleshman (2006). While there can be a perception among donors that appeals are overestimated, cuts in ongoing relief operations have been a fact. For example, there have been repeated ration cuts in refugee camps in Southern and Western Sudan due to insufficient resources. This "misunderstanding" between donors and relief agencies makes it all the more necessary to establish a credible inter-agency early warning and monitoring mechanism.

[152] According to some analysts, food aid would be particularly suitable for covariate shocks rather than idiosyncratic types that are better taken care of through traditional community-based risk management practices. While this would also help to address the moral hazard problem, more analysts are increasingly advocating the use of risk management financial instruments as being more appropriate.

[153] To reduce the cost of transporting humanitarian food and supplies, WFP has implemented a massive road project in South Sudan since 2006 repairing, rebuilding and clearing of mines about 3,000 km of roads and border crossings with Kenya and Uganda. The roads built have apparently halved the average travel time to markets, schools and health facilities and helped reduce cereal prices in nearby markets (Brinkman and Hendrix, 2010).

[154] See the WFP project, entitled "Climate and Disaster Risk Solutions: Equipping Developing Countries With Tools to Manage Natural Disaster Risk More Effectively".

framework through collaboration with FAO and be built upon the global early warning instruments that already exist.[155]

In July 2008, the League of Arab States and UNDP estimated that approximately 21 million people in the Arab region were receiving food relief in Iraq, Palestine, Mauritania, Somalia and the Sudan. They also estimated that, excluding Iraq, an additional 6-8 million were possibly in need of such assistance and accordingly called for the creation of an Arab food security fund to finance the scale-up of food assistance, with an estimated cost for 2008 of $770 million.

Experience with food aid-based safety nets has increased over the past decade. This modality may suffer from moral hazard problems that typically require other, complementary inputs or activities to protect the productive assets of vulnerable peoples.[156] As a result, the role of food aid in establishing and maintaining safety nets is more limited than its role in acute humanitarian emergencies, where the objective is more simply to protect human life and to fulfill the right to food. Most safety nets require financial resources at least in addition to food resources. In general, cash-based safety nets have been underused, especially in emergencies. However, as experience with them grows, interest in cash-based safety net programming is increasing.[157]

In conflict situations, the focus of humanitarian assistance has often been on lifesaving interventions, such as food distribution, feeding programmes, healthcare, water and sanitation , sometimes paying little attention to local institutional, socio-economic and policy dynamics that support processes to rebuild resilience (Alinovi, Hemrich, and Russo, 2007). It is against this backdrop that OECD issued a set of principles for "engagement in fragile states" (OECD, 2007) and that a "twin track approach" has been suggested (Pingali, Alinovi, and Sutton, 2005) and, livelihood programmes have increasingly been investigated as a possible complementary tool to food aid.[158] These programmes have shown themselves sustainable in many natural disaster settings and their impacts have been less documented in conflict settings.[159] The humanitarian assistance in Darfur saw increased emphasis on this approach stimulated by the Darfur Joint Assessment Mission (DJAM) following the peace agreement in 2006.[160] In fact, in many countries, conflict-affected populations remained involved in livelihood activities to meet such basic needs as milling and clothing, while relief support was being provided. In this vein, many of WFP's recent projects in post-conflict countries focus on rebuilding infrastructure, such as feeder roads to markets, and the resilience of communities. They are identified using participatory methods with the communities with the objective of strengthen food security and building social cohesion. Moreover, WFP has been increasingly purchasing food directly from producers from developing countries, many of which are also conflict-affected, building at the same time capacity of farmers' organizations and the social capital around them. Its recent initiative "purchase for progress", which includes the Sudan among the 8 pilot countries, seems to be picking up momentum.

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[155] League of Arab States and UNDP (2009). The primary mechanism is the FAO-managed Global Information and Early Warning System (GIEWS). There is also the FAO/WFP Joint Commodity Price Bulletin that comes out every three months. For countries facing a serious food emergency, FAO/GIEWS and WFP carry out Joint Crop and Food Security Assessment Missions.

[156] The lack of reliable data on the people in need of food aid is a particularly challenging issue, especially in conflict-affected areas. WFP has recently developed techniques using, for instance, Vulnerability and Analysis Mapping (VAM) that allow geographic targeting based on household and community surveys and that get the most out of scarce resources in these kinds of circumstances.

[157] Harvey (2005).

[158] An evaluation of the WFP development policy of 2005 clearly calls for a closer integration of emergency, recovery and development operations. Since then, the WFP has increasingly moved in this direction.

[159] Jaspars and Maxwell (2009).

[160] The Darfur Joint Assessment Mission (DJAM) identified early recovery, development and reconstruction needs with detailed recommendations in a range of sectors, with the United Nations coordinating the assessment of early recovery needs, and the World Bank covering development and reconstruction. While funds for early recovery have been very limited in the past owing to the prevalence of the humanitarian component, a gradual shift in its favour has been observed more recently.

Livelihood interventions can be based on three approaches, namely: (a) livelihood provision (providing subsistence in absence of assets); (b) livelihood protection (protection of current assets); and (c) livelihood promotion (increasing assets and their productivity). In the immediate aftermath of a conflict, the assistance strategy typically focuses on the first and (sometimes) second approach, whereas the third one is used in the medium term or when the severity of the conflict calls for it. In the case of Darfur, the second approach, that is monitoring land occupation and access to land, has revealed itself to be very important in order to provide a means of livelihood in the early recovery phase.[161]

Box 3. Key issues in comparing cash and in-kind assistance

Cost-effectiveness: Cash programmes are likely to have lower transport and logistics costs. However, there may be other costs, for instance for additional finance staff. Whether a cash grant is more cost-effective will depend on the price of goods in local markets compared to the price an aid agency would have to pay to deliver the same goods. The relative costs to recipients of transporting in-kind assistance against the costs of travel to and from markets also need to be taken into account.

Security risks: The attractiveness of cash may create risks both for staff transporting cash and for recipients. Conversely, cash may be less visible than in-kind aid, and there may be ways of distributing it that reduce possible security risks. The risks of cash compared to in-kind alternatives are different and context-specific.

Corruption and diversion risks: Cash may be more attractive than in-kind assistance and so may be particularly vulnerable to being captured by elites. It may also be more prone to diversion, particularly where corruption is high, and to seizure by armed groups in conflicts. On the other hand, it may be possible to deliver cash more securely than in-kind aid, and the risks of diversion or looting during procurement and transport may be avoided. Again, the risks are different, context-specific and not necessarily greater or lower.

"Antisocial" use: Cash can be used to buy anything. Some of the cash received may be used for such antisocial purposes as buying alcohol. Similarly, though, in-kind assistance can be sold and used antisocially.

Gender: Concerns that cash may disadvantage women because they have less say in how it is spent than with in-kind assistance have largely not been realized. Where cash has been specifically targeted at women, it has sometimes given them greater voice within the household. Again, however, the gender-specific impacts of cash need to be assessed on a case-by-case basis.

Choice, flexibility and dignity: Cash allows recipients to decide what they should spend the money on. This allows people to choose what they most need, and for this to vary from person to person. Greater choice may help to foster dignity in the receipt of assistance. Using banks as delivery mechanisms may enable people to avoid the indignity of having to queue for assistance at distribution sites.

Market impacts: Any kind of resource transfer will affect markets and local economies. In deciding whether to provide cash or in-kind assistance, these effects need to be assessed. The main possible negative effect of cash transfers is the risk that they will cause or contribute to inflation in the prices of key goods. Cash transfers are also likely to have positive impacts on local economies through multiplier effects, and are less likely than in-kind transfers to discourage local trade or production.

Consumption/nutrition: Food aid can be fortified to address micro-nutrient deficiencies. Cash may also promote dietary diversity by enabling people to buy a wider range of foodstuffs.

Targeting: Given that cash is attractive to everybody it may be more difficult to target, as even the wealthy will want to be included. In practice, targeting cash projects does not seem to have been more problematic than targeting in-kind assistance.

Skills and capacity: Implementing cash projects requires different skills and capacities. Logistics are often simpler, but there may be a need for additional finance capacity. Assessments and monitoring need to include analysis of markets; both cash and in-kind assistance still require a focus on targeting, registration, robust distribution systems and transparency and accountability.

Source: Harvey (2007), p. 2.

[161] Jaspars and O'Callaghan (2008).

The range of livelihood-based programmes spans from medium- to longer-term activities and includes cash for work and vouchers for different services, vocational training, distribution of agricultural inputs and support to income generating activities, strengthening of financial services facilitating remittance flows,[162] land policy reforms.[163] For instance, in IDP camps in Darfur, food aid has been combined with milling support and fodder for livestock; in the Nuba Mountains in Southern Sudan, the NMPACT project made extensive use of local NGOs to support livelihood-based activities to address food insecurity (Pantuliano, 2005). Recent experience suggests that cash and vouchers can be a possible response even where countries are fragile and conflict is ongoing. Cash projects have been successfully implemented in such conflict-affected environments as Afghanistan and Somalia, where private remittances and money transfer companies have provided a relatively safe way of transferring cash.[164] More structural interventions aimed for instance at land policy reforms such as the establishment of community land councils and communal properties in the Democratic Republic of Congo, Ethiopia, Zimbabwe, Liberia, Mozambique, Guatemala, New Guinea as land plays a role in the aetiology of conflicts, is usually the most valuable of rural people's assets and tends to form the centre of their livelihood strategies in response to food crises (Pantuliano, 2009).

Unfortunately, these kinds of long-term programmes are set against the backdrop of very limited and volatile ODA allocated to them. For instance, according to OECD-CRS database, agricultural projects on average receive only 3-4 per cent of development and humanitarian assistance[165] in conflict-affected countries – but only around 1 per cent in Iraq and the Sudan - vis-à-vis an average of almost 6 per cent in non-conflict LDCs, despite the fact that agriculture plays a large role in their economies and plays a fundamental role in supporting the livelihoods of a large part of the population. A similar but even more pronounced pattern can be shown as to ODA allocated in the education sector which on average barely reaches 2 per cent of humanitarian aid.[166]

However, evaluations of many of these interventions in conflict are limited, so it is difficult to assess when and where different types are appropriate. Available experience has shown that local partnership is an essential component of the more successful livelihood interventions, but the identification and involvement of local partners remains challenging and fraught with risks. Cash transfers are apparently more effective when basic goods are available on the local markets and where markets function. On the contrary, seeds, tools and livestock programmes are useful when these items are not present and traded on the markets. In the medium term, food may become locally available and therefore food aid and in-kind transfers, such as food for work and food for education programmes, may be replaced more effectively by cash transfers and income generation activities based on livelihood promotion approach. Moreover, providing such services as vocational training, financial services, and veterinary and agricultural extension can be more advisable as a longer-term means for livelihood promotion in the context where material goods are at risk of theft.

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[162] For a review of the importance of remittances in the rural economies of conflict-affected countries and their usual underestimated role in humanitarian response, please see Savage and Harvey (2007).

[163] Action Against Hunger (ACF) started a pilot project providing vouchers for milling in 2007 in IDP camps in Darfur. The project originated from the realization that milling costs have a high negative impact on a household budget thereby forcing the poor to sell part of the food aid received. An evaluation of the project showed that the sale of food aid was reduced on average by more than half. This intervention also benefitted the milling services that have grown in those areas, providing income generation to many other households involved in these activities. Vouchers are considered more secure than cash, but tend to be effectively implemented in countries with a well-developed commercial retail sector, an extended financial network, and public confidence in the institutional ability to back the value of the voucher. WFP is planning to adopt a similar scheme on a larger scale. Other voucher schemes could be designed in other sectors, including, for example, the transport sector.

[164] Harvey (2007).

[165] It is estimated that the Sudan received on average over 60 per cent of total aid in the form of humanitarian aid in the period 2000-2008 (FAO, WFP, 2010).

[166] A recent report produced by OECD DAC also shows that ODA allocated to fragile states is highly concentrated, with 51 per cent of 2008 ODA benefitting only six countries out of 42 fragile states and, within the top six, Iraq, Palestine, and Sudan amounting to over 23 per cent of overall ODA (OECD DAC INCAF, 2010).

TABLE 14. EXAMPLES OF LIVELIHOOD INTERVENTIONS IN CONFLICT-RELATED CONTEXTS

Interventions	Context
Livelihood provisioning	
Food aid to all affected groups	All (rural, IDP, returnee). Acute conflict and post-conflict
Fuel-efficient stoves	IDPs. Acute/protracted conflict
Provision of grinding mills	IDPs. Acute/protracted conflict
Vouchers to meet non-food needs (e.g. milling, NFI, clothes)	IDPs. Acute/protracted conflict and post-conflict
Cash grants/cash for work	Rural. Protracted conflict/drought IDPs, populations suffering economic blockade Periods of relative stability: DRC
Livelihood protection	
Seeds and tools distribution	Rural (rebel-held areas), IDPs, returnees. During and post-conflict, in most conflict settings
Seed vouchers and fairs	Rural. Protracted conflict
Cash grants/cash for work	Returnees (livelihood recovery)
Fodder distribution/safe places for livestock	IDPs. Acute conflict
Restocking (e.g. donkeys as essential assets for firewood, water collection; small stock as source of food and income)	IDPs, returnees
Income generation (including market gardens)/savings and loans	Protracted IDP and refugee contexts People affected by conflict but not experiencing open hostilities (e.g. stable rebel-held areas). Returnees
Veterinary care/provision of veterinary drugs	Rural/IDP. Acute/protracted conflict
Agricultural extension: seed multiplication/ crop protection	Protracted conflict. Rural
Livelihood promotion	
Skills and vocational training	IDPs, refugees, ex-combatants
Strengthening community organisation to increase access to services (e.g. community livelihood groups and disaster-preparedness planning, farmer field schools, savings and loans groups)	Protracted conflict. Government- and opposition-held areas
Supporting localised peace initiatives *and traditional governance, for example in opening up migration routes, efforts to stay neutral, conflict resolution**	Protracted conflict
Market access programmes – road rehabilitation, farmers' cooperatives, linking producers with markets, voucher programmes	Protracted conflict. Periods of relative stability
Advocacy on compensation, voluntary return *and freedom of movement, access to land, opening borders, etc*	Acute/protracted conflict
Mapping land-tenure systems and land occupation	Acute/protracted conflict

Source: Jaspars and Maxwell (2009), p. 11.

There is a general need for a stronger and more coherent coordination of aid interventions among United Nations and external partners in the transition from the humanitarian relief phase to the recovery and reconstruction phase, when particular attention should be placed on livelihood planning also as a possible conflict prevention mechanism when planning transition strategies.

In an attempt to address the gap between the delivery of relief and the transition to recovery and reconstruction internally within the United Nations, many initiatives have taken place at Headquarters level over the past decade. The United Nations Development Group (UNDG) and the Executive Committee on Humanitarian Affairs (ECHA) established a joint working group on transition issues, chaired by OCHA, to respond to the funding and strategic planning gap between relief and development activities in the context of natural disasters and complex emergencies, and to continue to strengthen the consolidated appeals process as a coordination and strategic planning tool for the provision of humanitarian assistance and transition from

relief to development.[167] In 2005, as part of a process of reform of humanitarian assistance, the United Nations Inter-Agency Standing Committee (IASC) established the Cluster Working Group on Early Recovery (CWGER), comprising 24 United Nations and non-United Nations humanitarian and development partners and led by UNDP.

In 2008, CWGER established a financing task force to analyse existing early recovery data aimed at determining the extent of the financing gap in the international community's response to early recovery. In order to address the financing gap characterized by a lack of timely, flexible and reliable funding for early recovery planning and programmes that bridge humanitarian, recovery and longer-term development financing, an Early Recovery Practitioners and Policy Forum held in Denmark in October 2008, endorsed a number of proposals. These included investment in priority sectors, such as agriculture and livelihoods, in which initial early recovery analysis indicates potential for significant longer-term gain. Moreover, a Peace and Development Advisor post, funded jointly by the United Nations Department of Political Affairs (DPA) and UNDP has been created to advise resident coordinators in countries with no political missions on issues of stability, conflict and aid, among others. Recently, resident coordinators have also begun to receive systematic capacity support during transition through the DOCO Transitions Office and in particular through DFID. These developments, while positive, are accompanied by risks of duplication of efforts. The translation of their efforts into tangible country level results is still unclear and therefore have yet to prove their value-added.

Additionally, PRSPs need to be integrated systematically in conflict factors. In 2005, a report by the World Bank on conflict-sensitive policy reduction strategies, key recommendations included the need for the selection, prioritization and content of policy actions to be systematically assessed through a conflict lens; a stronger contextual analysis to determine key drivers of conflict escalation and de-escalation, and how they interact with factors affecting growth and poverty; and assessment and monitoring of the potential impacts of policy actions on the conflict dynamics, conflict impact assessments of individual programmes, as well as the potential impact of policies and strategies.[168]

Finally, as is often the case in countries emerging from conflict, major policy initiatives designed to provide strategic support to the transition process are not supported by existing aid architecture. Often, scores of different arrangements can operate side by side, each one coordinating, planning and programming aid interventions; and each involving government actors, donors, international organizations and NGOs. Attaching them to unified coordination architecture could reduce the coordination burden placed on already stretched government capacities; and facilitate leadership, management and ownership of national transition agendas in line with OECD/DAC principles.

Recommendations

The recommendations can be summarized as follows:

(a) To achieve the timely delivery of resources (often non-food) that is often crucial in order to equip communities to manage risks and prevent upcoming shocks well before they collapse into crises. Strengthening local institutions and markets is therefore central to the capacity of resilience of these communities;

(b) To develop and discuss guidelines to address how and when to include food aid and food security expenditure in the national budget of emergency-affected countries. Food aid operations sometimes tend to be managed in parallel to national institutions, thereby limiting the contribution to national capacity-building.

[167] This directive is contained in Economic and Social Council resolution E/2002/32.

[168] The World Bank (2005f).

While this is understandable in some conflict-affected scenarios, in other kinds of emergencies it would be useful to develop such guidelines;

(c) To reduce food aid tied to donor countries and increase domestic or regional purchases according to competition-based procurement rules;

(d) To improve internal coordination at the country level between different ministries and agencies. At times there is poor coordination in disaster preparedness and management, and the national legislation needs to facilitate international humanitarian assistance;

(e) To mainstream protection and development activities within wider national frameworks, thereby extending the benefits of international interventions beyond the local level;

(f) To establish mechanisms for closer coordination of (ex ante) humanitarian monitoring and nutritional surveillance, including, for example, through an inter-agency early warning system; identify and monitor hotspots that are particularly vulnerable to food insecurity; and prepare interventions at the country level as well as at the region level;

(g) To increase further the flexibility of food aid agencies in their operations, thereby responding more rapidly to the very fluid environment that is typical in any conflict-affected context;

(h) To move towards multi-year budgeting and work plans for relief agencies in order to help to plan ahead and focus on delivery with more stable resources;

(i) To investigate the possibility of creating a stand-by relief fund within, for example, OCHA or WFP, for the ESCWA region that can be quickly mobilized in case of emergency. Part of the fund could be used by WFP for its operations on the international commodity markets to secure and/or procure stocks of cereals when needed;[169]

(j) To strengthen existing coordination mechanisms between United Nations and donors in the transition from the humanitarian phase to the recovery and development phase and, consequently, between the agencies specialized in economic development, humanitarian and security issues in line with the recommendations emerged from the 2008 Forum on "Rethinking Food Security in Humanitarian Response". The creation of a unified aid architecture (a nexus and coordination mechanism) that includes all partners and to which all other coordination mechanisms are attached could be established to ensure strategy coherence and harmonization. This architecture should be country- and conflict-specific resulting from a careful and early institutional – including informal institutions – and socio-economic assessment and ensuring that agro-pastoral livelihoods would be addressed at an early stage, particularly in protracted conflict settings. Considerations should be made if the benefits of food aid in addressing acute short-term food insecurity may be offset by the cost of reducing long-term food security. Moreover, aid agencies need to ensure that food aid closely complements other activities consistently elaborated within national and local poverty reduction and recovery strategies;

(k) To set up close coordination among agencies and implementing partners on the logistics operations of humanitarian interventions with particular regard to their security aspects;

(l) To increase shared information and methodology on targeting of beneficiaries and develop a common registration system in support of the emergency and recovery assistance programmes among donors and relief agencies by means of modern ICT tools;

(m) To invest in targeting methods and data, and establish clear distribution criteria and monitoring systems that are not subject to manipulations or interpretations and that can increase transparency so that anyone knows from the outset who is objectively entitled to what; improve outreach to marginalized communities, particularly minorities, whenever possible; improve understanding of women's role in local

[169] This is equally referred to as virtual reserve.

societies and try to leverage on them without exposing them to unnecessary local scrutiny; and organize frequent distribution to small social units of small quantities of food which is less attractive to local elites;

(n) To complement food aid with non-food distribution (for example, health, water and sanitation services) around distribution sites where human concentration can increase to avoid surge of transmissible diseases;

(o) To strengthen ex post the impact evaluation of different responses in various contexts and discuss them in public forums;

(p) To organize regional forums where the relationship between food aid and conflict can be discussed as well as the most suitable modalities of food aid (whether cash or in-kind) in such contexts and agree upon inter-agency operational guidelines;

(q) To review and discuss at the regional level lessons learned of livelihood intervention projects and land policy reforms in conflict-prone environments,

(r) To build a consolidated and shared roster of relief experts as well as land and livelihood specialists that can be quickly mobilized from the outset in emergencies – including during the participation in peace processes – by all relief agencies operating in the region;

(s) To prioritize regular organizational learning exchanges among agencies and implementing partners so as to strategize operations and avoid operating in a constant emergency mode.

C. REGIONAL TRADE INTEGRATION, FOOD SECURITY AND CONFLICT RESOLUTION

Given that, at the household level, the principal determinant of food security is the family purchasing power, similarly, purchasing power at the national level is a key determinant of national food security.[170] There are two broad options to achieve national food security, each underlying different philosophies and entailing different policies, namely: (a) food self-sufficiency (or sovereignty), which relies on domestic production rather than trade; and (b) trade-based food reliance.[171] Naturally, the spectrum between these two policies is wide and, generally, it is matter of degree of where a country wants to position itself between these two extremes.

Trade is normally an essential component of a food security strategy, among others, for the following reasons: (a) diversifying sources of supply and therefore reducing risks linked to limited resources; (b) fostering a country's comparative advantages and promoting the efficient use of resources; (c) relieving countries from expensive stock holding; and (d) reinforcing overall economic growth.[172] Efforts to achieve food self-sufficiency and indiscriminate protection of inefficient domestic food producers can drain resources that could be more efficiently allocated for setting up appropriate safety nets or unleashing more internationally competitive agricultural subsectors capable of providing foreign exchange earnings. This in turn can be used for imports of food categories, in which the country does not have a comparative advantage, at lower domestic resource cost.

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[170] In this case, the national purchasing power refers to the amount of foreign exchange available to pay for food imports, adjusted for their prices.

[171] Food self-reliance means being able to earn sufficient foreign exchange from other exports, such as manufactured goods, so as to be able to import food. Countries following this strategy will, however, need to be concerned about the terms of trade. As food prices rise, food self-reliant countries will need to export more manufactured and other goods to be able to import sufficient food.

[172] From a methodological viewpoint, dynamic effects of trade liberalization in the long term, through their induced effects on investment and technology adoption, are usually expected to be much larger than static effects often obtained in empirical studies. The more protection a country has at the beginning of the liberalization process, the higher the dynamic effects are expected to be. Moreover, empirically it has been proved difficult to compare the effects of unilateral trade liberalization compared to regional trade integration. While many results show a higher effect of the former, regional integration often entails a freer circulation of factors of production (labour and capital) whose cumulative dynamic effects are not easily measured.

Most studies on trade liberalization point out that efficiency benefits are larger than expected terms-of-trade losses. Bouet, for example, compares 17 studies of global trade liberalization, which show that the estimates of the aggregate benefits of full global trade liberalization range between 0.3 per cent and 3 per cent of world GDP.[173] Those focusing on the Arab region suggest that multilateral trade liberalization tends to result in net gains with real GDP further increasing by 1-3 per cent.[174] The common findings that can be drawn from these studies are as follows:

(a) Full trade liberalization is beneficial in terms of global income, as well as for all or most of the regions;

(b) Most of the benefits of full trade liberalization come from liberalizing the agricultural sector precisely because it tends to be mostly protected;

(c) A large majority of the benefits of trade liberalization come from reducing tariffs and other import barriers rather than from reducing producer subsidies. This is not surprising given that import barriers are almost universal across countries, while producer subsidies are concentrated in a few albeit large economies, namely: the European Union, Japan and the United States;

(d) The benefits to developing countries are larger as a percentage of the incomes of these countries than are the corresponding benefits to developed countries;

(e) The benefits to each country or region derive largely from liberalization carried out within the country or region rather than from opening up the borders of trading partners. Most of the gains from agricultural trade liberalization are associated with domestic reform rather than changes in trade policy in other countries.

In addition, trade openness can release part of the pressure on the regional natural resources. With efficiency gains resulting from better trade openness and regional integration, ESCWA member countries could also have large savings in water use, with food security achieved through trade rather than protection. Already, trade is playing a vital role with the very substantial food imports that are saving huge water resources. However, there is much more opportunity for a shift out of production of the still heavily protected, costly and water-intensive activities, such as beef, dairy, sugar, rice and wheat, into more labour-intensive and less water-intensive per dollar of value-added export crops, including cotton, fruit and vegetables. Improvements in agricultural trade can lead to faster and more sustainable growth, thereby reducing poverty along the way.

However, trade liberalization can have some potentially negative consequences when it comes to food security typically related to the risk of price instability resulting from variability in the markets, export bans, potential increase in private stocks and financial speculations.[175] However, it cannot be said whether price instability would increase or not in the context of open markets as it would depend on the combined effect of these different forces. For example, where the level of domestic protection is high, as in the Syrian Arab Republic, then trade liberalization is likely to reduce domestic agricultural prices, unlike in countries where domestic protection is lower, such as in Egypt, Jordan or Lebanon. Moreover, lower tariffs in agriculture will tend to have a negative impact on import-substituting products in the region, including field crops and livestock, while such export-oriented sectors as fruit and vegetables will tend to gain as a consequence of better access to regional and international markets, particularly the European Union and the GCC subregion. World prices have different pass-through effects on domestic prices depending on the extent of protection, subsidies, the relative share of domestic consumption supplied by imports and domestic market structures.

[173] Bouet (2006).

[174] IFPRI and IFAD (2007).

[175] The link with financial speculations has not yet been fully proved.

The consequences of trade-related job losses are a serious issue in agriculture. The benefits of freer trade will likely go mainly to better-off farmers in irrigated areas and urban consumers. The impact of trade on the poor and their access to food will be the combined result of positive and negative growth and distributional effects. In two decades of trade reforms, it has been observed that losses are often borne by the more vulnerable segments of the rural population, small field crop producers, subsistence farmers in rain-fed areas and poor livestock herders. In some countries, trade liberalization has entailed negative effects on some groups of the poor (normally living in rural areas) as a consequence of lower imported food prices competing with local production.[176] In these cases, appropriate safety nets specifically targeting such groups have proved to be useful.

The region has potential intraregional comparative advantages and complementarities in agriculture, led by fruit and vegetables, cash crops, fish, livestock and dairy depending on the country's agro-ecological characteristics and its level of efficiency.[177] This shows room for potential expansion of intraregional trade.[178] Some of the conflict-affected countries are already benefiting from this given that their agro-food intraregional exports form a substantial part of their trade balance.[179]

While countries have signed a series of multilateral, regional and bilateral trade agreements, their effectiveness has been limited by the current structural similarities of some of the ESCWA economies[180] and the (quite common) granting of exceptions for sensitive products.[181]

The challenge in the agricultural sector is how to realize gains from liberalization through macroeconomic reforms that allow international prices to be more stable and transmitted to local farmers,[182]

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[176] Trade openness does not necessarily imply lower food prices given that this effect can usually be the result of unilateral trade liberalization. Quantitative studies have shown that multilateral trade liberalization can bring to the opposite outcome in the short term. For a comprehensive review of the studies see Bouet (2006). In the review, the MENA region is found to achieve welfare gains associated with agriculture trade liberalization (partly through increase of unskilled wages) even though the terms of trade for net food-importers tend to deteriorate.

[177] In 1970, the League of Arab States established the Arab Organization for Agricultural Development (AOAD), with headquarters in Khartoum and with one of its main objectives being the increase of intraregional trade in agricultural products.

[178] Estimates by ESCWA and, more recently, by the World Bank show that a reduction in trade transaction costs in the region could increase GDP by almost 2 per cent.

[179] In 2008, Palestine exported agro-food products equal to 23.5 per cent of total exports to the ESCWA region, compared to Sudan, at 30.7 per cent, and Yemen, at 23.5 per cent. The intraregional balance of trade shows that Egypt, Jordan and the United Arab Emirates are the largest importing partners for the four conflict-affected countries and territories.

[180] There will still be some gains from trade even if countries have similar factor endowments (primarily labor, land, capital) - as it may be the case for some of the ESCWA countries - because each country can specialize in different products so that both countries gain from economies of scale. However, the gains will be less than they would be for trade between countries with different wage rates, different agroclimatic conditions and different types of skills.

[181] Multiple and overlapping regional trade agreements can actually contribute to trading costs because tariff rates differ depending on the country of origin. These different rates give traders an incentive to misrepresent the origin of imports, thereby forcing customs officials to require additional documentation and further slowing the process. Dennis (2006a) finds that intra-regional trade in MENA is hampered by burdensome customs procedures, poor infrastructure and regulations that impede efficient transportation services (e.g. regulations favoring national airlines, restrictions on private transportation companies, restrictions on foreign truck drivers, regulations prohibiting backhaul freight, and various fees and taxes). Delays and uncertainties associated with customs clearance alone are estimated to be equivalent to 10% of the cost of the goods being traded. Thus, measures to streamline customs procedures and introduce greater competition in regional transportation services would enhance the benefits of regional trade agreements. However, the economic benefits of regional integration supposed to be brought about by GAFTA, which includes 15 countries in the region, has been limited to date owing to, among others, numerous exceptions allowed under the Agreement, poor infrastructure and inefficient transportation services. As a result, intra-GGC trade is only around 5.8 per cent; intra-Mashreq, 17.1 per cent; intra-ESCWA, 15.8 per cent; and intra-Arab region, 11.3 per cent. It is noteworthy that the trade literature has shown that the welfare impact of regional integration will crucially depend on its design.

[182] Due to subsidies, tariffs, export licensing, and bottlenecks in trade logistics, international prices of cereals may not reflect full efficiency in the agricultural markets.

thereby increasing their productivity. In turn, this will also depend on the existence of complementary policies. The gains tend to be smallest (or the losses greatest) when factor markets are more rigid.[183] Flexible markets allow factors of production to be reallocated from formerly protected sectors to newly profitable sectors, which in turn depends on the enabling business environment.

Examples of some of the more prominent stumbling blocks in the business environment of the ESCWA region include the following:

(a) Complicated and costly dismissal of workers, particularly in Egypt, Palestine and the Sudan;

(b) Lengthy and costly procedures for the issuance of land and construction permits, particularly in Egypt, Lebanon, Palestine, the Sudan and Syrian Arab Republic;

(c) Weaknesses in credit information and secure transactions, particularly in Iraq, Palestine, the Sudan, Syrian Arab Republic and Yemen;

(d) Difficulty of trading across borders, particularly in Iraq, Palestine, the Sudan, Syrian Arab Republic and Yemen;

(e) Issues related to enforcing contracts, particularly in Egypt, Iraq, Jordan, Saudi Arabia, the Sudan, Syrian Arab Republic and United Arab Emirates;

(f) Significant costs and capital requirements in starting new businesses, particularly in Iraq, Jordan, Palestine, the Sudan and Syrian Arab Republic;

(g) Difficulties in dealing with bankruptcy procedures, particularly in Egypt, Iraq, Lebanon, Palestine, the Sudan and United Arab Emirates.

Some of these rigidities are particularly severe in some countries in the region as highlighted by the latest *Doing Business Report* (2010), particularly for Egypt, Iraq, Jordan, Lebanon, Palestine, the Sudan, Syrian Arab Republic and Yemen. These ESCWA members are all ranked in the bottom half, representing a paradox given that these countries are those most in need of an enabling business environment in order to unleash their comparative advantages.

However, some countries still seem to be sceptical about multilateral trading systems. Among the protection instruments used by ESCWA member countries over the past two decades and in addition to a complicated web of agriculture tariffs are para-tariff measures, including custom surcharges, additional taxes and surcharges, stamp taxes, statistics taxes and sales taxes levied on imports; anon-tariff barriers, such as quantitative restrictions and technical requirements;[184] and input subsidies covering seeds, fertilizers, pesticides, animal feeds, fuel and irrigation water.[185]

A large portion of food traded by volume is staple commodities, which are particularly sensitive to the vagaries of thin international markets and therefore to international and domestic transport, warehousing and transfer costs. Distance, market size, infrastructure (particularly port, roads, railways and storage), quality

[183] Dennis (2006b).

[184] Hoekman and Konan (2005) estimate that the removal of non-tariff barriers leads to an increase in welfare that is more than twice as large as that resulting from tariff liberalization.

[185] All countries are part of WTO, except Syria and WBG (non-members) and Iraq, Lebanon, Sudan, and Yemen (observers) and the Mediterranean countries of the region have signed a Euro-Mediterranean Partnership with the EU allowing facilitated access to its markets for products originating from these countries. The EU has also extended the Generalized System of Preferences to the ESCWA LDCs (i.e. Sudan and Yemen).

and competition among transport providers are likely to drive transport costs.[186] Transport and logistics costs, particularly the international maritime and road haulage components, are high across the world. Logistics costs are about 9 per cent of GDP in the OECD member countries and tend to be much higher in developing countries. These costs often represent a great barrier to trade and, combined with tariff and non-tariff barriers, they can make up a very large portion of the delivered cost of imported food products.[187]

This is even more the case for the conflict-affected countries and territories of the region as testified by relevant indicators. For instance, on average, it costs $3900 and $2900 to ship a container between a main international hub and Iraq and the Sudan, respectively, compared to a regional average of about $1000-1200. It takes over 100 days to clear and handle shipment in Iraq (Doing Business, 2010). According to the World Bank, as a result of closures in Palestine, transportation costs from Ramallah to Bethlehem soared by 348 per cent between 2000 and 2005; from Ramallah to Nablus by 105 per cent; and from Ramallah to Jenin by 167 per cent.[188] Insecurity on travel routes has also contributed to raised transport and input costs and is believed to have contributed to increased isolation of rural markets. For example, the cost of cement is on average 75 per cent higher in Nyala – the capital of South Darfur state in the western part of the Sudan – than in Khartoum due to distance and informal payments for security. It takes more than 100 days to clear and handle shipment in Iraq.[189] By the time products are handled, stored and distributed, trade and logistics costs can reach up to half of the final price.[190]

In addition to immediate efficiency gains, the growth of transport and logistics itself can provide the substantial potential for employment growth which ESCWA member countries are eagerly looking for. Being a service industry with relatively limited investment requirements compared with other industries, transport and logistics is a labour-intensive economic sector with a strong focus on a less-skilled workforce, which is a source of comparative advantage for the poor countries of the region.

As a result, the ESCWA region has a particularly strong regional trade integration deficit. In order to illustrate this deficit, table 15 compares various trade related indicators, namely: (a) World Economic Forum's Enabling Trade Index;[191] (b) the World Bank's Logistics Performance Index (LPI);[192] (c) the World Bank's Ease of Doing Business Index;[193] and (d) export shares of manufactures and services.

Table 15 shows that the GCC region outperforms the more diversified economies, including, naturally, conflict-affected countries and territories, in all categories, with the exception of the export share of manufactures and services. As a whole, the ESCWA region tends to perform worse in many trade development indicators than other middle-income regions or, in some cases, even the world average. These indicators are heavily affected by the following: (a) lack of overall responsibility for trade facilitation;

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[186] Logistics costs alone are estimated to make up to 20-60 per cent of food prices depending on products and trade routes. Studies have shown the relatively high impact of domestic transport costs from primary to secondary markets vis-à-vis international transport component. This consideration applies particularly to the ESCWA region where almost all intraregional transport services are conducted on roads rather than railways. In addition, the poor road quality in the lowest-income countries contributes to much slower turnaround time, thereby increasing further marketing costs.

[187] In this context, Aid for Trade initiatives, particularly for the poorer and conflict-affected countries, could assist regional integration and help to make regional integration an effective building block for the multilateral trading system.

[188] The World Bank (2008).

[189] The World Bank (2009b).

[190] For example, Sudan's sheep export is the leading agricultural national export product, almost all of which are live sheep. While Saudi Arabia is the main export market, transport costs alone can account for up to 65 per cent of total marketing costs and the administrative cost/taxes incurred at Port Sudan can reach about 15 per cent of the freight-on-board export price. (The World Bank, 2010).

[191] See www.weforum.org/en/initiatives/gcp/GlobalEnablingTradeReport/index.htm.

[192] The Logistics Performance Index (LPI) ranking is available at: http://info.worldbank.org/etools/tradesurvey/mode1b.asp#ranking.

[193] See www.doingbusiness.org/EconomyRankings.

(b) no integration of border services and inspections; (c) lack of simplified procedures for transit freight; (d) the poor state of railways and road infrastructure in the conflict-affected countries, as typified by the conditions of the roads and border crossings between Palestine and Jordan, and between Iraq and the Syrian Arab Republic and Jordan.

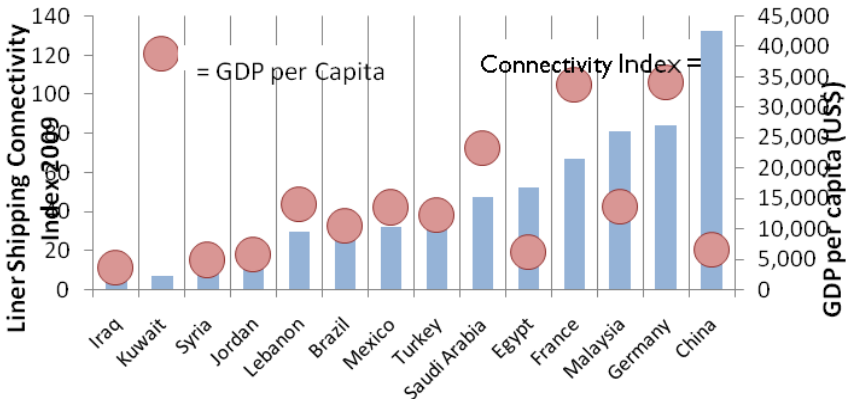
TABLE 15. TRADE DEVELOPMENT INDICATORS IN THE ESCWA REGION

Country/territory	Enabling Trade Index	Logistics Performance Index	Ease of Doing Business Rank	Export share of manufacturing and services
Bahrain	4.8	3.4	18.0	26.2
Egypt	3.7	2.6	114.0	16.4
Iraq	Na	2.1	152.0	..
Jordan	4.4	2.7	101.0	38.8
Kuwait	4.0	3.3	52.0	7.8
Lebanon	..	3.3	99.0	27.5
Oman	4.5	2.8	57.0	7.4
Palestine	..	..	131.0	8.0
Qatar	4.5	3.0	37.0	6.4
Saudi Arabia	4.4	3.2	16.0	5.9
The Sudan	..	2.2	147.0	0.8
Syrian Arab Republic	3.3	2.7	137.0	12.8
United Arab Emirates	5.0	3.6	46.0	5.3
Yemen.	..	2.6	98.0	2.9
ESCWA (weighted average)	3.9	2.6	111.3	10.8
ESCWA (simple average)	4.3	2.9	86.0	11.9
More diversified economies	3.7	2.5	125.5	11.6
GCC subregion	4.4	3.2	25.6	6.1
Conflict-affected countries	..	2.3	134.6	3.5
World	4.0	3.1	91.0	16.5

Sources: WEF, WB, WDI (2010).

Moreover, the maritime connectivity index confirms the results above and shows the delay of many countries of the region in improving their international logistics integration performance (see figure 18).

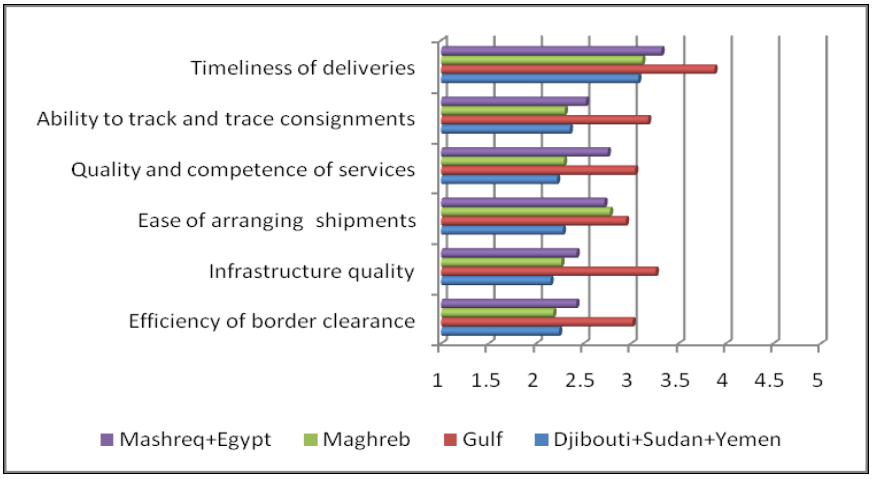
Figure 18. Maritime connectivity in selected countries



Source: UNCTAD LSCI (2009); and IMF (2010).

Least developed countries (LDCs) in the Arab region are particularly affected by the poor quality of services and infrastructure, efficiency of border clearance, ease of arranging shipments, and ability to track and trace consignments.

Figure 19. Performance in the six core logistics areas by Arab subregion

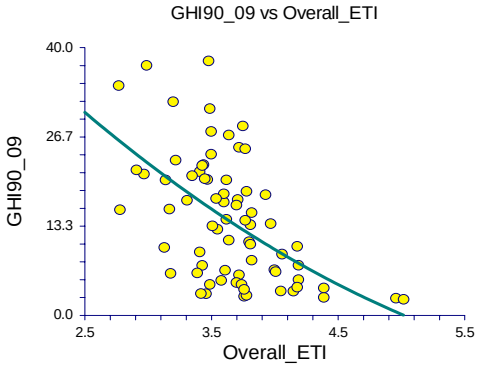


Source: LPI (2010).

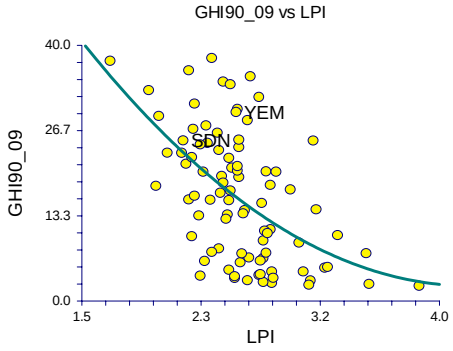
The general relationship between trade development indicators and food security, as presented in figure 20, clearly illustrate that investing development of trade and logistics – as measured by LPI (regression II) – can pay for a considerable food security dividend.

Figure 20. Trade development indicators and Global Hunger Index

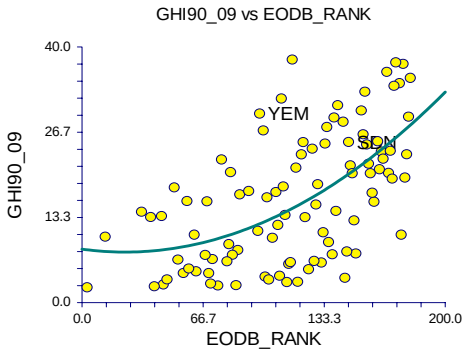
Global Hunger Index vs. Enabling Trade Index



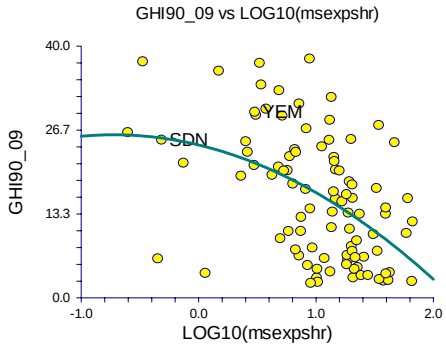
Global Hunger Index vs. Logistics Performance Index



Global Hunger Index vs. Ease of Doing Business Rank



Global Hunger Index vs. Manufacturing and Service Export Shares



Source: ESCWA calculations based on WEF (2010), DB and LPI (2010).

Regression results

Implicit equation:

$$GHI_i = \beta_0 + \beta_1 ETI_i + \beta_2 LPI_i + \beta_3 EODB_i + \beta_4 MSExpShr_i + \varepsilon_i$$

Methodology: Double-log OLS

DV=GHI	I	II	III	IV	V
Const	6.9***	6.7***	6.0***	6.1***	6.5***
	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)
y2k	-0.50***	-0.47***	-0.51***	-0.49***	-0.47***
	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)
ETI	-0.78				
	(0.20)				
LPI		-0.99**			-0.67
		(0.03)			(0.18)
EODB			0.02		
			(0.86)		
MSExpShr				-0.12***	-0.07
				(0.02)	(0.11)
R2	0.66	0.65	0.63	0.65	0.66
N	137	87	98	94	84

Finally, empirical studies show that countries that trade with each other are less likely to be affected by conflicts.[194] Regional trade integration reduces conflict through the promotion of horizontal (geographical) mobility and vertical (socio-economic) mobility. Countries with more trade tend to face less inequality in the long run, expanded market opportunities and greater economic diversification, which in turn reduce both greed and grievance. Promoting regional trade, investing in common infrastructure projects, especially in such scarce and shared resources as water, and freeing the circulation of factors of production reinforce the concept of regional public good. By applying common tariffs, trade integration tends to be a disincentive to smuggling as this thrives more between borders of countries with higher differences in their trade policies, customs procedures and tariff systems.[195] Smuggling in turn is a destabilizing factor that is instrumental to the allocation of local political and economic power and is therefore prone to fuel, underlying internal and inter-State conflicts. Moreover, by creating mutual interdependence, economic integration can make conflicts more costly and peace dividends more remunerative for individual countries given that political and economic conflicts are often intertwined, and can play a stabilizing role for countries on its borders. On the contrary, countries outside regional integration processes are arguably also more likely to suffer further isolation.

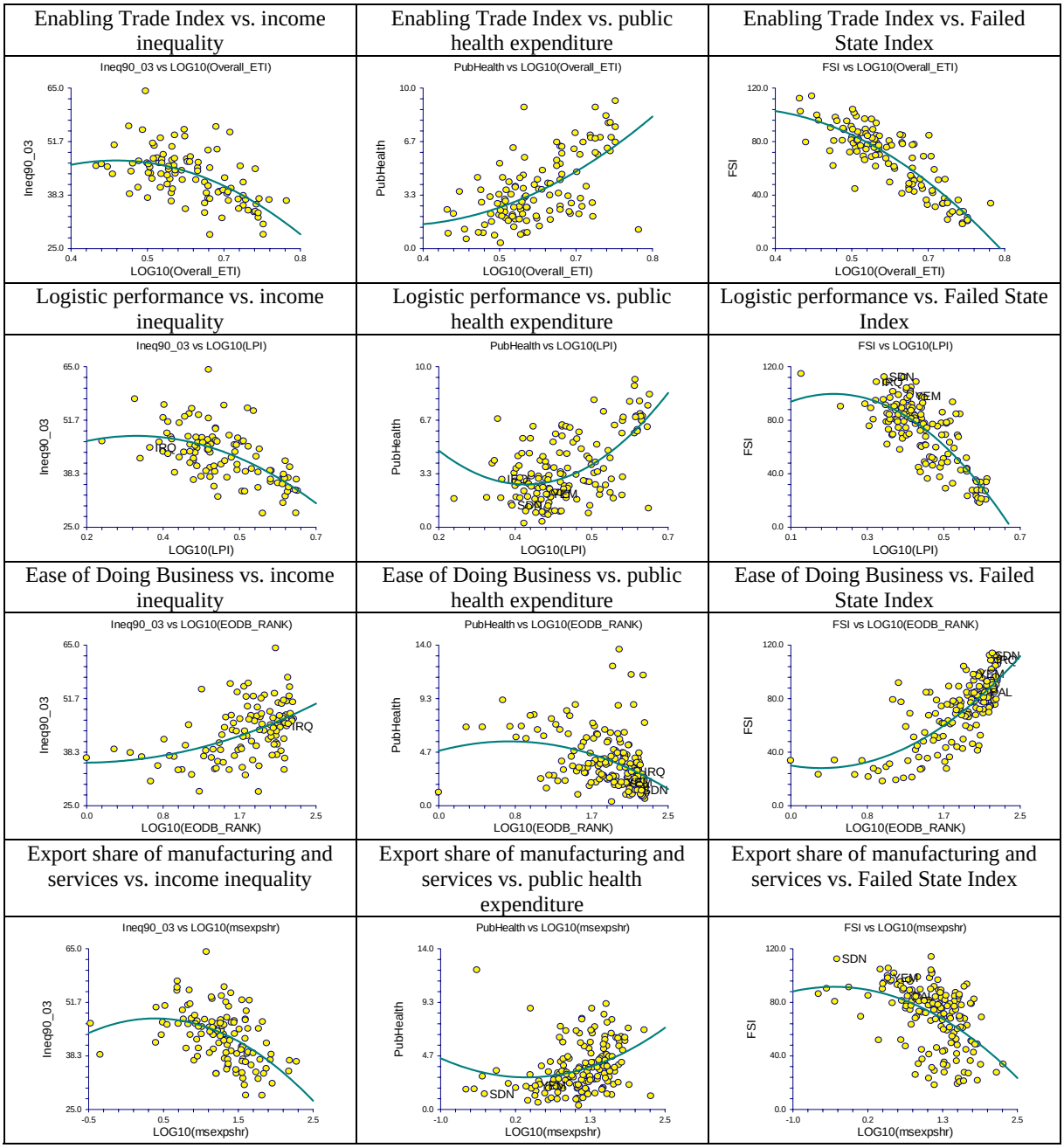
Moreover, trade-led equitable socio-economic development creates a political climate of cooperation and leads to a public sector with a greater commitment to complement private investment by public investment. These were among the underlying reasons that explain the creation of the European Economic Community after World War II. More recently, ASEAN and the Southern Common Market (MERCOSUR) in Latin America have evolved from security concerns to more clear-cut trade arrangements; and have been echoed in southeastern Europe by the Stability Pact in the war-torn Balkan region. However, in the short term such a process through its redistributive impact can potentially lead to unemployment and social unrest and therefore higher political instability if it is not designed and managed properly.

[194] Humphreys (2004); and Mansfield (2003).

[195] Iraq and Yemen run heavily subsidized programmes that have created large price differentials with neighbouring countries, including, respectively, the Syrian Arab Republic and Turkey, and Saudi Arabia. As a result, it is estimated that about 20 per cent of production of wheat and rice are exported from Iraq although the country is heavily dependent on imports for both goods. In the 1990s, the price differential of wheat between Saudi Arabia and Yemen was up to ten times, and estimates found that in 1996 a quarter of the wheat subsidized in Yemen was captured by smugglers. The World Bank (1999 and 2005d).

In summary, more trade-oriented countries tend to be politically less fragile. To support these ideas, the same trade performance indicators from the previous section are run on indicators that are indicative of reduced conflict (see figure 21).

Figure 21. Trade and conflict



Source: ESCWA calculations based on WEF (2010), DB and LPI (2010).

The relations shown in the graphs appear meaningful and of the expected signs. While the relationships are likely to go in both directions, this seems to support the idea that trade openness and an enabling business environment have a significant impact on food security through lower food prices and

better food access, and on more general economic development. Consequently, one can imply the importance of these factors in supporting conflict mitigation and resolution initiatives in the region.

Recommendations

The recommendations can be summarized as follows:

(a) To improve connectivity through better operational efficiency and landside linkages;

(b) To strengthen regional logistics and distribution hubs based on geographic and economic trade flows, such as the Nile Delta, the Red Sea area and the Gulf subregion;

(c) To encourage competition and consolidation of small private operators;

(d) To improve clearances/inspections procedures through better cross-border coordination between phytosanitary and customs services;

(e) To set export clearance times as the standard for import clearance times;

(f) To simplify and harmonize customs declarations forms, procedures and clearance;

(g) To use risk-based selectivity process for border inspections;

(h) To foster competition in service provision and access and capacity of transfer and storage facilities;

(i) To improve road quality, keeping in mind that the present value of maintaining a road regularly is an order of magnitude less than rehabilitating it once every ten years;

(j) To strengthen trucking regulations and enforcements;

(k) To facilitate the development of warehousing and transfer facilities;

(l) To investigate opportunities aimed at strengthening Aid for Trade initiatives for LDCs and conflict-affected countries in the region;

(m) To introduce, once trade procedures and documents are simplified, standardized electronic trade documentation, thereby significantly reducing paperwork and multiple permit procedures;[196]

(n) To formulate an overall regional transport and logistics master plan aimed at tackling the issues listed above in a more coordinated and comprehensive fashion.

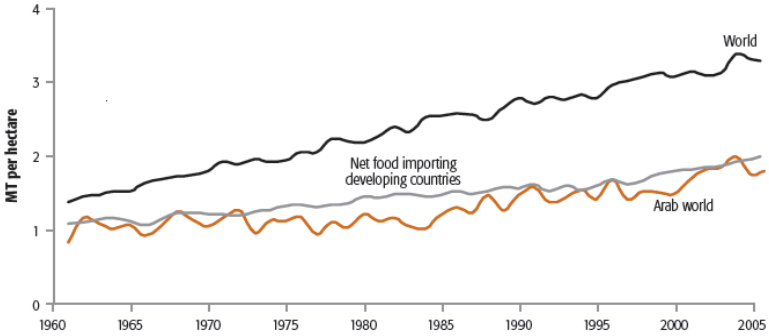
Finally, many ESCWA member countries still lack reliable and extensive public and private logistics data that is regularly updated and, therefore, find it difficult to undertake systematic analysis of existing costs and bottlenecks, and of potential efficiency gains that could be achieved through proposed regional logistics corridors. While there would be a need for international and regional organizations to produce analyses on trade and logistics, the complexity of domestic and international transportation networks continues to diverge in different directions for the countries in the ESCWA region. Sophisticated modelling could turn out to be prohibitively costly for some of the countries owing to human and technical capacity constraints. Within that context, academic institutions and think-tanks of the region suggest that a deeper and broader collaboration in the application of modelling for decision-making in logistics could be a very useful initial step.

[196] The benefits can increase if the standardized electronic trade documentation is used within a single window environment that allows parties to lodge standardized information and documents with a single entry point. If information is electronic, then individual data elements only need to be submitted once.

D. LIMITS AND OPPORTUNITIES FOR AGRICULTURE IN THE REGION

Many countries in the region are characterized by low agricultural productivity levels as illustrated by their average cereal yields, which in many cases are half of the world average and the gap has been constantly increasing (see figure 22). Gains in productivity would reduce food prices and therefore increase consumer welfare; and national products could become more competitive on regional and European markets.

Figure 22. Difference in average cereal productivities, 1960-2005



Sources: FAO (2008); and the World Bank (2009).

As a result, many ESCWA member countries will have to prepare for higher food import shares. Assuming that current food import bills grow 2 per cent faster than GDP as a result of its demographic and economic patterns, food import bills as a percentage of GDP would double every 35 years. Table 16 summarizes the implications of this simple calculation for Iraq, the Sudan and Yemen.

TABLE 16. CASE SCENARIO: IF FOOD IMPORT BILLS GROW 2 PER CENT FASTER THAN GDP (*percentages*)

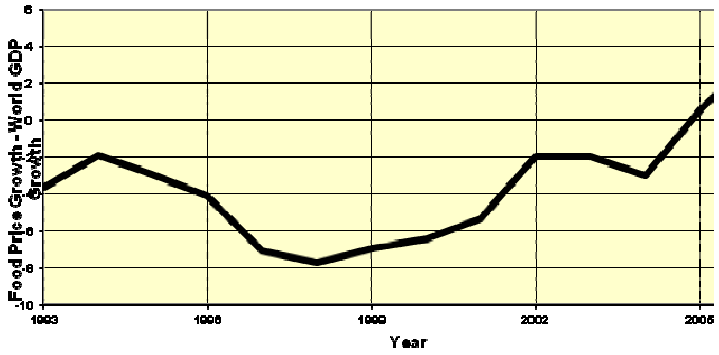
	Iraq	The Sudan	Yemen
2005	5	2	8
2025	7.4	3.0	11.9
2050	12.2	4.9	19.5

Source: ESCWA estimates.

Such a dismal perspective can be attributed to climate change, among other reasons. Most climate change studies predict that agricultural productivity will decline. Cline, for example, estimates that most of the countries in the Arab region will experience a decline of agricultural output of up to 25 per cent by the year 2080.[197] Most importantly, however, contrary to the historical global trend that showed downward trends of the price of the main grains, reflecting the fact that yields have generally outpaced demand growth, recent years may have seen a decoupling of world food prices from global output. This is illustrated in figure 23, which displays the five-year moving averages between FAO's annual Food Price Index and world GDP growth.

[197] Cline (2007).

Figure 23. Difference between food price index and world GDP growth
(*five-year moving averages*)



Source: Calculated by ESCWA based on FAO data, which are available at: www.fao.org/worldfoodsituation/en/; and on the World Bank Development Indicator (WDI) database (2009).

The negative values illustrate that world GDP grew much faster than world food prices for most of the observations. Since 1998, however, world food prices have increasingly caught up with the growth rate of the real sector. Since 2005, food price growth has surpassed world GDP growth, which already captures some of the price hikes from the 2007 food price crisis. As food prices are predicted to remain at high levels, the assumption that the value of food imports has the potential to grow slightly faster than GDP is not too far-fetched.[198]

However, many ESCWA member countries with comparative advantages in agricultural production have historically placed low priority on improving agricultural performance. For instance, the share of government expenditure allocated to this sector in Asia was regularly between 10-15 per cent in the 1980s and 1990s, while the corresponding share in the ESCWA region has not usually extended beyond 5 per cent.

Over the past two decades, there has been a tough debate and a general decline around public sector as well as donor support in agriculture as a result of inefficient and often overly protectionist-oriented policies characterized by a complicated system of subsidies and trade protection that heavily drain government budgets.[199] This general trend has resulted in weaker and segmented linkages to local and urban markets for poor farmers;[200] and in decreasing rural terms of trade compounded by much greater integration of the global economy characterized by more concentrated value chains and more demanding quality and food safety standards.[201] Agricultural subsidies and protectionist policies implemented in OECD member countries have further tended to distort these markets.[202]

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[198] See, for example, FAO (2009).

[199] For example, Iraq, Egypt and the Syrian Arab Republic offer their farmers guaranteed prices for some staple and cash crops as well as inputs subsidies. Untargeted subsidies, including fertilizer, pesticide, fuel and irrigation subsidies, are quite common in the ESCWA region and generally fail to address poverty or improve competitiveness based on sustainability criteria and clear market signals.

[200] Tacoli (2004).

[201] Rural terms of trade are the ratio between the prices of goods sold and bought by rural areas with the prices of goods from other economies.

[202] For example, while wheat exporters, including the EU and the United States, have largely eliminated export subsidies under the WTO regulation, they continue to provide support to domestic production through programmes that include marketing assistance, loan payments, direct and countercyclical payments, crop insurance and surplus disposal programmes for export assistance. Vocke, Allen and Ali (2005). Support for wheat by OECD member countries, as measured through producer support estimates, averaged 35 per cent of the value of production (2002-2004), amounting to nearly $17 billion of income transfers to producers. OECD (2005).

Adding to this political instability and low levels of research and development (R and D), among other constraints, it becomes easy to explain the region's limited capacity to deal with agriculture and food availability.

Moreover, low population density and poor infrastructure in many parts of rural areas of the region make effective institutions for sharing risk and achieving economies of scale all the more important, particularly in terms of collection, storage, transport and processing, and such related agricultural services as equipment maintenance, extension and veterinary services.

TABLE 17. PERCENTAGE OF IRRIGATED CROPLAND

	Percentage of total irrigated land
GCC subregion	100
Egypt	95
Iraq	32
Jordan	31
Lebanon	41
The Sudan	9
Syrian Arab Republic	30
Yemen	47

Source: AOAD (2007).

The partial absence of comparative advantages in agriculture, of course, is no excuse for the inefficient use of scarce resources in agriculture as well as the inefficient organization of agricultural production. Particular attention must be paid to rural and agricultural communities. Such programmes may address incentives to form cooperatives; insurance schemes against crop failures; value chain development of agricultural production, particularly in fruit and vegetables (canning, juicing, drying and processing);[203] and the development of new business opportunities (agritourism, niche production and biotechnology).

Similar to social safeguards for vulnerable pockets of the society on the demand side, there is a need to reduce social vulnerabilities on the supply side, which are often identical to the vulnerable on the demand side. In tribal areas, market development is often hampered by unclear property rights, which prevent financial services from developing given that land cannot serve as collateral; and neither can markets for land emerge. Procedures for securing property rather than just customary tenures are still undeveloped despite the fact that recognizing the property of these assets may be a stepping stone to clambering out of poverty. Another problem in the region is the legal inheritance framework, which calls for the division of land among the heirs and thus promotes land fragmentation under which minimum efficient scales can barely emerge. All this results in the fact that agriculture is generally characterized by traditional rather than commercial farming and more fundamentally places stress on post-conflict governance which fragile national formal institutions and humanitarian actors are ill-equipped to deal with (Pantuliano, 2009).

However, there is also room for optimism, which stems from the fact that there is still a substantial potential for the expansion of arable land. FAO estimates that, globally, 2.8 billion hectares of arable land can still be exploited for rain-fed agricultural production, which is almost twice as much as what is currently in use.[204] The report, however, notes that developing this potential will require considerable capital and a strong political will. Table 18 summarizes the actual and potential hectares of arable land for our region.

[203] Vegetables have inherently a higher value added per unit of water compared to cereal or livestock production.

[204] FAO (2002), p. 4.

TABLE 18. ACTUAL VS. POTENTIAL ARABLE LAND IN SELECTED ESCWA MEMBER COUNTRIES (IN HECTARES) – THE OPTIMISTIC VIEW

Country/territory	Actual	Potential
Egypt	3,500,000	121,000
Iraq	5,750,000	4,406,000
Jordan	405,000	563,000
Kuwait	5,000	1,000
Lebanon	306,000	269,000
Oman	63,000	1,000
Qatar	8,000	1,000
Saudi Arabia	3,800,000	1,000
Syrian Arab Republic	5,527,000	5,636,000
United Arab Emirates	39,000	1,000
Yemen	1,545,000	5,000
The Sudan	12,975,000	86,728,000
Total	33,923,000	97,733,000
ESCWA production (2005)	41.8 million MT	74.6 million MT
ESCWA consumption (2005)	81.3 million MT	..
ESCWA import (2005)	39.5 million MT	..
Cereal import share (2005)	48.6%	-43.1%

Sources: FAO Terrastat, which is available at: www.fao.org/ag/agl/agll/terrastat/; and ESCWA calculations.

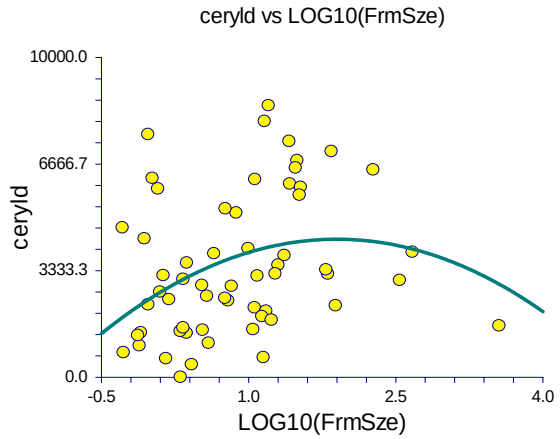
If the ESCWA region exploited its full agricultural development potential at an economic cost below market prices, then the amount of unexploited rain-fed arable land could at least meet the region's demand for cereals. For example, the 2005 cereal consumption of the ESCWA region was 81.3 million MT, and the import share was 48.6 per cent. Holding everything else constant, quick calculations show that, if the potential arable land had been exploited, total cereal production would be 116.4 million MT at current regional-weighted average yields; and around 90 million at country-level averages, which is heavily driven down by the low yield levels in the Sudan.[205] Consequently, rather than importing 48.6 per cent of its cereal consumption, the ESCWA member countries could be a potential cereal net exporter of about 10-35 million MT, depending on the yield projections used. The latest calculations provided by Fisher and Shah (2010) and reported in the 2010 World Bank report on farmland confirm this optimistic scenario estimating the potential availability of "suitable land" (i.e. non-cropped and non-forest land with low population density) in the Sudan just under fifty million hectares – the highest potential suitable land in the world – of which almost all would be suitable for the production of maize and soybeans.

The 2000 FAO World Census of Agriculture contains data on the average farm size in 64 countries.[206] The average farm size of this sample is 85 hectares and the median size is 6 hectares. The only ESCWA member country included in the survey is Egypt, which has an average farm size of slightly less than one hectare. The relationship between farm size and cereal yield shows the typical inversed U-shaped curve that is commonly found in the literature displaying increasing productivity levels for small farm sizes and decreasing ones for large capital intensive ones (see figure 24). The prevalence of small farms in the region can therefore represent an asset for its agriculture if put in condition to compete on the market.

[205] If benchmark yields for developing countries were to be used, total cereal production estimates would easily be in the range of 150-200 million MT.

[206] FAO (2010). The World Census of Agriculture is available at: www.fao.org/economic/ess/world-census-of-agriculture/en/.

Figure 24. Average farm size vs. cereal yield, 2003-2007



Source: ESCWA calculations based on FAO (2010) and the World Bank Development Indicator (WDI) database (2009).

In summary, while agricultural development is a crucial aspect when it comes to food availability, its development in the ESCWA region tends to be heavily constrained by the lack of an enabling environment, poorly implemented development policies and by the conflict cap placed on the Sudan's huge agricultural potential.

1. *Agriculture and rural development in conflict-affected environments*

In the recent history of developing countries, more rapid growth has been a key to poverty reduction although the causality is not always evident. On the basis of a wide cross-country dataset, Ravallion has calculated a growth elasticity of poverty of -2.5 – in other words, for every 1 per cent increase in average income, the proportion of the population living on less than $1 per day declines on average by 2.5 per cent.[207] Empirical research also shows negative elasticities for those Arab countries where data are available.[208] The literature has reached a consensus on the core drivers for growth promotion, namely: macroeconomic stability; heavy investment in physical and human capital; and reliance on the private sector.

In addition to promoting growth, a well-designed poverty reduction strategy needs to focus on how to boost income generation from the assets owned or used by the poor. This in turn would allow less inequality and therefore encourage a higher impact of growth on poverty reduction. However, raising the income of the poor is heavily constrained by the rapid demographic growth of the region in a context of depletion of natural resources. With a yearly demographic growth of 2-3 per cent and a corresponding labour force growth in the same range, ESCWA member countries should grow at least at 5-6 per cent in order to absorb new labour force and reduce existing levels of unemployment. Income growth for the poor should therefore come from the expansion of such labour-intensive activities as agriculture and agriculture-based manufacturing.

A wealth of studies have been conducted on the specific role of agriculture in pro-poor growth, and recent results suggest that agriculture is significantly more effective in reducing poverty among the poorest of the poor through growth and participation effects. When societies are not fundamentally unequal, it is also up to 3.2 times better than non-agricultural sector at reducing $1-day headcount poverty in low-income and resource-rich countries.[209]

[207] Ravallion (2000).

[208] Ali and Elbadawi (2000).

[209] Christiansen, Demery and Kuhl (2010).

In most of the poor and conflict-affected countries and territories of the ESCWA region, agriculture is the major employer and a very important source of national income. Growth in agriculture tends to be more labour intensive and pro-poor increasing incomes in a more equitable way than other sectors.[210]

Agriculture also helps to reduce poverty by lowering and stabilizing food prices, increasing demand for consumer goods and services, and stimulating growth in the non-farm economy. For example, in Egypt, agriculture is estimated to have "the highest multiplier effect on poverty reduction compared to any other productive sector, in that one per cent increase in agricultural GDP reduces poverty by 3 per cent".[211]

Agricultural and rural development provides an important sector to help avoid Dutch-disease-type economic difficulties experienced by most oil-exporting countries. For instance, Indonesia, despite its vulnerability to civil unrests has been able to accumulate oil-based revenues and spend them on strengthening the production base of non-oil tradable sector, through expansion of infrastructure and investment in socials services particularly in rural areas.

Devising the right policies requires in-depth understanding of different rural categories that can characterize one country's rural economy. In this region, four rural categories can be identified with their own rural and agricultural systems, namely: (a) large-scale commercial farms; (b) traditional farms; (c) subsistence farms; and (d) landless rural households.

Public and particularly pro-poor policies should be tailored to a country's prevailing agricultural systems and their dynamics and relations within the general context, such as, among others, political stability, fiscal space, regional dynamics, quantity and quality of donor assistance, and other sectors of the economy. Policies aimed at supporting R and D in molecular biology and knowledge-intensive technology, foreign direct investments (FDIs) and agricultural lending and insurance could be typically oriented towards commercial farms; while policies supporting land reform and titling, grant or microcredit schemes, social assistance programmes and extension services would tend to support subsistence farms and the rural poor.

While all four categories are usually present in a national economy and there are important relations between them whereby the top categories can create demands and opportunities for the others, in the conflict-affected countries of the region the lowest categories account for a larger share of employment and poverty incidence. Small producers contribute to greater food security, particularly in marginal areas and poor communities where locally produced food avoids the high transport and marketing costs attached to externally produced foods. A particular focus on rationalizing and enhancing the productivity of traditional and subsistence farms as well as landless households in these countries is thus justified given the of the greater impact on poverty.

The semi-arid areas of the Sudan, Yemen and parts of the ESCWA region rely on unimodal seasonal production with relatively little irrigation (less than 10 per cent of total cropland in the Sudan compared to

[210] A review of the econometric literature in this field shows that the multiplier effects of agriculture on an economy, thanks to its upstream and downstream linkages, are estimated to be in the range of 1.35 to 4.62 worldwide, with sub-Saharan Africa at the lower end (Thirtle et al., 2001). A 10 per cent increase in crop yields on average reduces 6-10 per cent of people living on less than one USD a day (Irz et al., 2001; World Bank, 2005). A 1 per cent increase in labour productivity in agriculture reduced the number of people living on less than one USD a day by 0.6-1.2 per cent. Investing in agriculture tends to show the highest sector-specific returns in both growth and poverty reduction. The average real income of small farmers in South Asia rose by 90 per cent between 1973 and 1994 as a result of the Green Revolution (World Bank, 2001). Agricultural growth had its greatest impact when it was driven by crops that poor farmers cultivated most (World Bank, 2005). Finally, studies have shown that a more egalitarian distribution of land and investments in rural infrastructure help reduce the "greed-grievance" argument and lead to higher economic growth but also helps ensure that growth is more pro-poor (Deininger and Squire, 1998; Ravallion and Datt, 2002; Fan, 2004). This has been confirmed at cross-country level in papers by Wilhelm and Fiestas (2005), Fan et al. (2004, 2005), Lofgren and Robinson (2004) that find that investment in agriculture, education (human capital), and infrastructure (physical capital) have positive effects on growth and poverty reduction. Investing in agriculture tends to show the highest sector-specific returns in both growth and poverty reduction provided that an equitable distribution of land is in place.

[211] Government of Egypt et al. (2009).

almost 100 per cent in GCC and Egypt); and tend to negatively affect already low labour productivity. Given one planting season, the production is more vulnerable to climatic and other shocks, thereby resulting in high variance of yield, particularly in the rain-fed areas which are typically used for cereal production by small farmers.[212] These characteristics combined with a poor business environment tend to dampen the responsiveness of food production to price signals. Government restrictions to domestic trade flows also hinder the free circulation of food production from low to higher price areas that could help reduce price spikes, on one hand, and increase income opportunities for farmers, on the other.

Recommendations

Efforts to stimulate agriculture's role in pro-poor growth in the region should be based on four priority areas, namely:

(a) *Enhancing productivity and market linkages:* While there is growth potential for small producers in the food staples sector whose domestic demand remains high, they will have to become more competitive against cheap food imports from outside the region. Policies specifically focused on enhancing smallholders' productivity are twice as useful given that this category usually makes up a big share of the rural population and of the poor. Productivity gains depend upon supportive policies that enable rural producers to use the available resources (i.e. land and water) more efficiently and sustainably.[213] This would in turn require a gradual implementation of land policy reforms in favor of a more secure, rational and harmonized tenure system by local communities particularly in the LDCs of the region. Productivity gains will also depend upon easy access to competitive inputs and equipment, organized and integrated producers associations able to expand their segment in the value chain, qualitative applied R and D, sound infrastructure and transport services, and rural financial services.[214] In Yemen, for instance, the road density is about 100 metres per km^2 (m/km^2), which is below that of Latin America, at 120 m/km^2, and Asia, at 180 m/km^2, thereby resulting in poor accessibility, low frequency of transport services and high transport costs.[215] Given the strong growth linkages between agriculture and non-agriculture, investment and productivity gains outside agriculture are needed to maximize growth linkages, thereby advancing agricultural market development. Within that context, there is particularly a need to improve productivity of those sectors that are highly linked with agriculture, such as post-harvest processing;

(b) *Reducing risks and vulnerabilities in rural areas:* Poor farmers tend to depend relatively more on agriculture and be prone to more aggregate and idiosyncratic shocks, particularly in this region which is heavily affected by natural and man-made disasters. In addition, the region has been increasingly characterized by the "feminization" of agricultural work as a consequence of men's labour migrations and conflicts that poses new challenges and new types of risks. Vulnerabilities have raised with increased global market linkages and parallel ineffective policies or retrenchment of the State in important policy areas.

[212] Research in drought-resistant crops is particularly important for keeping rain-fed agriculture economically viable. See El Obeidy (2006). Morocco, for example, has developed some 120 drought-resistant crop varieties.

[213] A rule of thumb useful to ESCWA conflict-affected countries is that typically in the early stages of development, land productivity is crucial in order to increase production, whereas in the later stages, labour productivity becomes more important as non-agriculture sectors pick up and off-farm wages rise. Increase in labour productivity is normally associated with increasing post-harvest processing which tend to contain more value added. Land reforms around the world show that broad-based and pro-women land tenure system can constitute the first and most cost effective social safety net programme while providing productive infrastructure.

[214] The use of inputs and yields of staple crops tend to fall markedly when farmers are located further away from urban markets. Here success in increasing production may result in marked price drops because of inelastic local demands. Therefore, infrastructure and transport services help support productivity and stabilize prices.

[215] According to IFPRI estimates, the average travel time to a local market in Yemen is 96 minutes – 73 for urban households and 105 for rural households. Access to urban centres is even more difficult for rural households, with an average travel time of two hours. In the desert zone, an average trip to a local market or an urban centre takes more than eight hours. Food insecure households are worse off, with a longer average travel time to reach the nearest local market or urban centre. IFPRI (2010).

Provision of a policy menu in order to facilitate smoothing aggregate and idiosyncratic risks is therefore central to pro-poor agriculture policy in the ESCWA region. This would mean studying how to utilize more market-based financial hedging and insurance instruments in coordination with innovative, flexible, gender-focused and place-specific social protection programmes designed and targeted for the poor that help them to reduce their levels of risk aversion and enable them to undertake new economic activities and increase market participation;

(c) *Promoting rural livelihoods rather than just agriculture:* Agricultural and non-agricultural rural sectors are closely intertwined and their respective developments are mutually beneficial. Traditionally, agricultural policies have focused on increasing agricultural production in its narrower definition and neglecting investment in broader and more diversified rural livelihoods that could entail movements from rural to peri-urban or urban areas.[216] Domestic and increasingly regional free movements of factors of production can help sector- and location-based policies provide opportunities and more equitable economic development in the ESCWA region. This would entail establishing functioning land titling systems and leasing, with minimized transaction costs that allow farmers to dispose freely of and collateralize their immovable assets in the most efficient way;[217] tailoring investment in infrastructure, education and health services; and providing an enabling business environment that helps to liberate and mobilize human and financial resources in agricultural and non-agricultural productive activities;

(d) *Streamlining rural livelihoods in government strategies:* National poverty reduction strategy programmes (PRSPs) should be critical for implementing agricultural strategies and to ensure that agricultural markets work for the rural poor. However, agriculture and rural development have been neglected, poorly implemented or given a secondary role in past PRSPs across the region, owing largely to a limited understanding of the rural dimensions of poverty and their reflections on other socio-economic sectors and the wider political instability. Limited understanding of their importance has often resulted in top-down and bureaucratic or rigid approaches, scarce participation of typical PRSPs stakeholders in their discussions and implementations, and lack of accountability and monitoring mechanisms.

In a conflict-affected environment, this four-pronged approach needs to be added to activities aimed at addressing acute and chronic aspects of food insecurity. Solid safety nets and emergency response capacity need to be put in place so that they can ensure access to food for households respectively affected by chronic and acute food deficit.

2. *Agriculture R and D funding*

The ability to address resource scarcity by innovation is crucial given that, according to Homer-Dixon, this eventually makes countries more prone to resource competition and resource capture mechanisms and therefore to instability and conflict.[218]

Total factor productivity (TFP) in the region has been negative or low in the period 1970-2005. Protracted conflicts and poor use of human capital in production are considered two main culprits of such a low performance. A study by Belloumi and Matoussi shows that, in 2000, eight ESCWA member countries whose data are available produced about 93 per cent of the output that could be potentially produced using the observed input quantities.[219] During the period 1970-2000, these countries have recorded an average

[216] For food-insecure households, out-migration in the peak food deficit season may be important not only in terms of income diversification but also for the members that remain by reducing the number of people to feed.

[217] Typically in conflict-affected countries, people's discount rates are relatively much higher owing to inherently higher risks. Developing the leasing market of land can help farmers to consolidate their production while still being risk averse.

[218] Homer-Dixon (1999).

[219] Belloumi and Matoussi (2009). Within that context, the ESCWA member countries are Egypt, Iraq, Jordan, Lebanon, Saudi Arabia, Sudan, Syrian Arab Republic and Yemen.

increase of 0.2 per cent in TFP as a result of moderate growth in efficiency changes and technical innovation. This average moderate increase indeed seems to mask a wide spectrum of performances at the country level, ranging from an increase of 4.2 per cent for Jordan to a decrease of 3 per cent for Saudi Arabia.[220]

The positive performance of Jordan may be the result of macroeconomic and sector-specific reforms that the country has undertaken and, equally, of continuous investment in agricultural R and D over the past two decades. With regards to the conflict-affected countries and territories, Iraq showed a marked decrease in efficiency gains as a result of conflict and neglected policy, while the Sudan and Yemen were negatively affected by technological change. With the exception of Iraq, all the countries in the region recorded a relevant increase in TFP in the 1990s, with an average growth of 2.7 per cent with most of ESCWA member countries included in the calculations, thereby scoring higher than the historical average.[221] Reviewing the literature, we find that Nin et al. found a TFP growth of 0.05 per cent for the wider MENA region in the period 1965-1994 (0.39 per cent for the Sudan and -0.98 per cent for Iraq);[222] and Rao at al. found a TFP growth of 0.9 per cent during 1970-2001, with Egypt, the Syrian Arab Republic and Iraq displaying 0.9, 0.9 and -1.5 per cent, respectively.[223] Nin-Pratt and Yu (2009) show positive TFP growth in the period 1984-2003 for Egypt, Jordan, the Syrian Arab Republic, and the Sudan.

TABLE 19. TFP CHANGES IN SELECTED ESCWA MEMBER COUNTRIES, 1970-2000

	Efficiency change, 1970-2000	Technical change, 1970-2000	TFP change, 1970-2000	TFP change, 1981-1990	TFP change, 1991-2000
Egypt	0.998	1.019	1.017	1.011	1.038
Iraq	0.980	0.999	0.979	1.015	0.952
Jordan	1.030	1.012	1.042	1.033	1.038
Lebanon	1.012	1.022	1.034	0.984	1.054
Saudi Arabia	1.000	0.968	0.968	0.997	1.046
The Sudan	1.000	0.995	0.995	0.971	1.030
Syrian Arab Republic	1.000	1.002	1.002	0.970	1.026
Yemen	1.000	0.982	0.982	0.987	1.035
ESCWA average	1.002	1.000	1.002	0.996	1,027
MENA average	1.002	1.002	1.004	0.996	1.027

Source: Belloumi and Matoussi (2009).

Investing in more R and D in Arab countries would particularly contribute to promoting food security and fighting rural poverty. According to UNESCO, developed countries spend around 2.5 per cent of their GDP on R and D activities, while the world average is 1.4 per cent. In Arab countries, the R and D expenditure is a mere 0.3 per cent of GDP.[224] By contrast, China spends 1.5 per cent of its GDP on R and D, and India more than 1.0 per cent. R and D expenditures per person average just $10 in the Arab region, compared to Malaysia, at $33, and Finland, at $1300. Unlike 70 per cent private sector investment in R and D in OECD member countries, the role of private sector investment in Arab R and D is minimal, forming

[220] The sizable drop of Saudi Arabia can be traced to the 1970s when speculations about food retaliations from oil importing and cereal producing countries led the country to pursue heavily subsidized wheat production and costly investment in water desalination. These TFP calculations for Saudi Arabia are at odds with those by Rao, Coelli and Alauddin (2004), who found that TFP had grown by 3.1 per cent in the period 1970-2001.

[221] Jordan, Lebanon, and the Syrian Arab Republic recorded increases in both efficiency and innovation in this decade.

[222] Nin, Arndt and Preckel (2003).

[223] Rao, Coelli and Alauddin (2004).

[224] Arab Science and Technology Foundation, which is available at: www.astf.net/site/funding/index.asp. Expenditures are particularly low in Yemen and Sudan, with 0.1 per cent and 0.2 per cent of GDP, respectively.

only 3-10 per cent of total Arab expenditure, with universities and the government sector providing the remaining, at one-quarter and two-thirds, respectively.[225]

Arab countries invest approximately $1.4 billion annually in agricultural R and D, or 0.66 per cent of agricultural GDP (AgGDP), which has witnessed a very marginal increase since the 1980s with the notable exception of Bahrain and Jordan. While this is slightly higher than the developing-country average of 0.53 per cent, it remains far below the recommended investment level of 2 per cent of AgGDP, which in turn is lower than the level of investment of developed countries, at 2.36 per cent of AgGDP.[226] Agricultural research is woefully underfunded in the Sudan where it reaches a mere 0.17 per cent of AgGDP. Brazil, which represents a similar large tropical country that has become a world leader in several agricultural commodity markets, invests 1.73 per cent of AgGDP in agricultural R and D (www.asti.cgiar.org). For the sake of comparison, the world's top 10 transnational bioscience corporations spend annually about $3 billion in R and D (twice as much of the total R and D expenditure in the Arab region). This low performance is more striking considering that agriculture R and D in this region yields high returns, averaging around 36 per cent;[227] and given the high social returns attached to it. Access to part of these funds should be on a competitive basis, and private firms should be allowed to compete as well, thereby strengthening public-private partnership in applied research in the region.

In general, the countries of the region share the same agricultural goals and the same food security challenges, namely, water scarcity and climate change. A regional research agenda would make perfect sense in these circumstances. Agricultural R&D has public good elements that have clear effects in reducing poverty and hunger and, therefore, it is much more efficient to organize at the regional rather than at the country level in order to capture economies of scale. Within that context, the League of Arab States and UNDP have proposed a regional R and D fund with a committed long-term budget.[228] Currently, the agricultural R and D programmes usually receive small- to medium-sized funding. It is important to note the large number of institutions aimed at tackling the water issue in the region with potential overlaps in their mandates. Many R and D programmes provide mission statements and objectives which are general and, with the exception of the large government-supported funds, only very few have large funding capacities for financing R and D projects (for a brief review of this issue, see annex I).

Recommendations

Contrary to the conventional wisdom in the region, what is needed is not increasing the number of R and D funds and institutions, but rather rationalizing and consolidating the sector. Most R and D mandated missions include statements of fostering coordination and collaboration in the area of science and development. However, more synergy and collaboration are needed to ensure complementary efforts given the fact that most of ESCWA member countries share the same challenges, such as water scarcity. The current fragmented landscape is less able to generate returns to research.

Without a regional development fund financed by the richer ESCWA member countries and benefiting the poorer ones, the latter will lack resources to allow them to catch up. It is important to create awareness of the fact that regional transfer payments are not a zero-sum, rather, if properly managed, a positive sum game. Experiences from Europe's regional development funds can again serve as a reference model for ESCWA members.

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[225] See Mohammed bin Rashid Al Maktoum Foundation and UNDP (2009); and UNESCO, World Science Forum in Budapest, which is available at: www.unesco.org/science/psd/focus/focus07/arab_science.shtml.

[226] Alston et al. (2000).

[227] Ibid.

[228] League of Arab States and UNDP (2009).

E. HUMAN DEVELOPMENT IN CONFLICT-AFFECTED ENVIRONMENTS

The past two decades have shown that in many developing countries where income has increased steadily malnutrition has not declined correspondingly. This suggests that higher agricultural production, economic growth and market-oriented policies alone reduce malnutrition very slowly and are, therefore, not enough to address food security in an acceptable timeframe. As a matter of fact, evidence shows that when GNP per capita in these countries doubles, changes in underweight rates are much more modest, in the range of 23-32 per cent.[229] Human development policies can provide a substantial contribution to increase the impact of growth on food security if particularly targeted to the poor.

Despite remarkable gains in human development, the region seems to have difficulty in raising productivity as confirmed by the low rates of returns on education, ranging from 2.5 per cent to 10 per cent depending of the level of schooling, and by relatively high unemployment rates among educated people.[230]

Human development is often a byproduct of the emergence of institutional and technological infrastructure resulting from a diversified economy. For example, the settlement of new industries provide new job opportunities for women, which increase household incomes, improve the social status of women, reduce fertility, free up savings, and allow for better diets. While many aspects of human development are endogenous to the modernization of institutional and technological infrastructures, they can also be targeted directly by the government through investment in public schools and health care.[231]

In fragile environments, however, the State often fails to provide such core services to the most needy for a number of reasons ranging from lack of capacity to lack of will to lack of legitimacy. Lack of accountability and skewed budget allocations in favour of particular ethnic or religious groups can further deteriorate these services. In the post-conflict context, this picture is dramatically compounded by abrupt pressure on such services resulting from rural-urban migrations,[232] increase in the number of the poor (which are typically the ones in need of basic public services), internal movements and emergence of IDPs, in parallel with the brain drain of skilled professionals among civil servants, lack of budget resources, deteriorating infrastructure, increase in military spending and other competing needs.

War and conflicts are more damaging than other crises, including natural disasters, given that they disrupt governance, legal frameworks, the rule of law, social linkages and institutions that are required for human development and the proper functioning of the economy.

However, while fragility has a negative impact on public services addressing human development, there is also evidence that improvement in service delivery can contribute to reducing fragility and move more quickly and in a sustainable fashion from the emergency mode to the recovery and developmental approach. In fact, the end of conflict, if properly managed, can offer a unique window of opportunity for addressing competing goals and expectations in the society that undermine social exclusion and human development.[233]

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[229] Haddad et al. (2002). Simple calculations point out that with a growth elasticity on malnutrition of -0.5, it would take on average about 46 years (27 years) to halve malnutrition in a typical developing country whose per capita income grows at 3 per cent (5 per cent) annually.

[230] The World Bank (2006).

[231] Health-care systems in the region are let down by the absence of inter-sectoral linkages that recognize the positive role of women and education in this area, low-quality public health services in parallel with increasing disparities in the quality of health care provision. UNDP (2009).

[232] For instance, estimates show that the city of Juba in South Sudan and the town of Nyala in Darfur increased seven- and four-fold respectively in the aftermath of conflict

[233] Olson (1982); and Collier (2007).

Within human development, different sectors have their own peculiarities with implications for managing risk and opportunities, allocating budgets and prioritization. For instance, education has in general a huge potential impact and for the very same reason is most prone to polarization and political manipulation.[234] Health care (particularly maternal and child health services), food rationing and water/sanitation tend to be more politically neutral and can offer some opportunity for cooperation across communal lines and partnership with the civil society. Where political commitment or financial and managerial capacities are limited, as it is the case in conflict-affected countries, it makes sense to focus particularly on a selected and limited number of goals in this sector. Nutrition projects, in particular, generate among the highest returns in development activities and often show their benefits even in the short term. Investments in micronutrient supplements and fortification, for example, particularly when targeted at young children, were rated above those in trade liberalization and water and sanitation (see table 20).[235] In fact, eliminating Vitamin A deficiency alone could save 16 per cent of the global burden of disease in children.[236] Countries with high underweight rates, such as the Sudan and Yemen, should get priority for action in nutrition, both at the level of policy and programming.

TABLE 20. BENEFIT-COST RATIOS OF NUTRITION PROGRAMMES

Intervention programs	*Benefit-cost*
Breastfeeding promotion in hospitals	5–67
Integrated child care programs	9–16
Iodine supplementation (women)	15–520
Vitamin A supplementation (children < 6 years)	4–43
Iron fortification (per capita)	176–200
Iron supplementation (per pregnant women)	6–14

Source: Behrman, Alderman and Hoddinott (2004).

Services that need to be supported include those entailing higher content of public goods characteristics in order to have a broader impact on local communities. However, setting priorities for such services can prove challenging given that many of their determinants are exogenous. For example, outreach capacity is affected by the remoteness of communities, mother's educational levels and security levels. Security problems are particularly damaging given that clashes often revolve around community service centres and schools, among others. Understanding the local political context and access problems is thus essential for designing interventions to improve service delivery to the poor.

The lack of capacity in providing basic services gives greater opportunity to local government and non-governmental roles. However, government buy-in for service delivery and aid programming in post-conflict settings is crucial and is just a question of degree of its involvement and the role it has to play based on the reading of the domestic political economy. Basic levels of service provision can be maintained based

[234] Empirical findings by Pillay (2003) on the relationship between development and conflict suggest that education has also a critical effect on society's propensity to conflict: each year of education of the school age population on average reduces the risk of conflict by about 20 per cent. Consequently, two years of education tend to have an impact equal to that of 5 per cent economic growth. Employment growth and education are also effective ways of dealing with the youth "bulge" that is associated with risks of instability and conflict. In addition, education also helps address other sources of fragility, such as providing curricula on health, sanitation, human rights and inter-ethnic dialogue. It also offers the opportunity to identify and assist children needing special help and to reach out to their families. Education can be a powerful cross-sectorial tool as well as an inter-generational change agent. Berry at al. (2004).

[235] A cross-country review of nutrition programmes showed that their benefit-cost ratios range between 5 and 200. Behrman, Alderman and Hoddinott (2004). However, the window of opportunity for improving nutrition is small: mainly from before pregnancy through the first two years. The literature shows that the damage caused during this period in terms of physical growth, brain development, and human capital formation, if not taken care of, is extensive and largely irreversible.

[236] Darnton-Hill et al. (2005).

on the most appropriate combination of local government, market and civil society activities and include NGO service provision, citizens organized groups, autonomous local community action and the private sector.[237] Improvements in these services can be a "tangible peace dividend in countries emerging from conflict", especially "quick wins" or quick impact projects that tackle high-visibility problems.[238] Basic service improvement may also be an entry point to build institutional capacity and political will for major governance reforms. Long-term social and political changes supporting good governance have more chances of success if they are linked to reforms in service delivery with tangible results.

Donor support can be crucial in enhancing pro-human capital policies in beneficiary and conflict-affected countries. However, there are many stakeholders in this particular area and given the width of the sector, incorporating, for example, nutrition programmes, interventions in the region are often either fragmented in a myriad of small-scale projects or fall between the cracks both in governments and in development assistance agencies. Scarce government management capacity can sometimes be wasted in administering many small-scale activities that imply different donor preferences, procedures and reporting requirements. This fragmentation also hinders civil society from building commitment to a national effort aimed at tackling food security while bearing in mind the "broad picture", rather than building loyalties to specific projects. While external aid is vital in ensuring basic service delivery in a post-conflict context, it can also have the detrimental impact of diluting the State's accountability and the overall governance framework if managed outside any institutional context and without looking at long-term implications. A key requirement in donor programmes needs to be managing the transition from the humanitarian to development programming and from non-State service providers back to government responsibility. Finally, mainstreaming nutrition and human development programmes into PRSPs and sector-wide approaches (SWAPs) that incorporate clear and easily measurable progress indicators are a useful means of making government policies more accountable in this area and of inducing normal financing channels to tackle these issues, rather than as ad hoc and sometimes volatile funds. Development partners need to help governments to build their commitment and capacity along this process also through a proper communication strategy aimed at getting the buy-in of domestic champions, key stakeholders and of the wider public.

F. SOCIAL ASSISTANCE PROGRAMMES

Communities that depend on agricultural activity are extremely vulnerable. Given that smallholder farming dominates agricultural production many farms are too small to feed their tenants. Rural-urban migration is the result, thereby tearing apart families and leading to the feminization of agriculture as men leave for urban centres or abroad to find work. When women become doubly burdened with raising children and farming, both responsibilities can only be pursued with suboptimal results. Such a situation is only sustainable if harvests are abundant, no droughts strike and remittances flow. However, in the light of continuing instability, low human security, recent economic turmoil and climate change, such favourable conditions are increasingly less likely. In order to cushion vulnerable pockets of society against social costs, farming communities need efficient safeguards. Wherever possible, these safeguards need to be in the area of market price stabilization and social safety nets targeting directly vulnerable households with social assistance programmes.

Even during the period of economic growth that the region experienced in the years preceding the economic crisis, wealth and growth surpluses were not systematically channelled into building strong industrial, infrastructural and human skills bases.[239] ESCWA member countries entered the economic crisis with already inadequate social protection systems. In fact, public employment and food subsidies appear to be the most important pre- and post-crisis social protection mechanisms promoted by Arab governments.

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[237] Societies with low social capital and suffering from polarization may not benefit from community-based approach. For example, in the wake of conflict in Sierra Leone, ad hoc groups appointed by relief agencies often became dominated by local elites, thereby intensifying social divisions, which were a primary cause of the war, and delaying reforms of local institutions. Slaymaker, Christiansen and Hemming (2005).

[238] Berry et al. (2004), p. 12.

[239] Behrendt, Haq and Kamel (2009).

In the wake of the food and financial crisis, many ESCWA member countries, including, for example, Egypt, Jordan, Oman, Saudi Arabia, Syrian Arab Republic and Yemen, have increased wages for public sector employees;[240] and some, namely, Egypt, Jordan, Syrian Arab Republic and Yemen have tried to support the poor by increasing bread subsidies, implementing direct cash transfers and lifting tariffs on basic food commodities.[241]

Some of the food subsidies have been proved to have regressive effects, including those in Egypt and Yemen in the 1990s, with the highest quintiles often living in urban areas receiving at least as much as the lowest one mostly resident in rural areas.[242] These have gradually become more targeted, albeit with further improvements needed in efficiency, and use more than 1 per cent of annual GDP in Egypt, Iraq, Jordan and Syrian Arab Republic.[243] Some have been reduced in scope and are increasingly replaced by targeted cash transfers. In addition, energy subsidies are estimated to amount to around 7 per cent of GDP across the region, peaking at 11 per cent in the Syrian Arab Republic, and one-quarter of Government expenditures in Yemen.[244] Such subsidies tend to be heavily tilted towards the non-poor as evidenced in the case of Egypt, where up to 93 per cent of gasoline subsidies go to the richest quintile of consumers.[245] Moreover, the reduction of import tariffs on staples is likely to accrue largely to the non-poor.

[240] Public sector wage bills have historically been over-inflated in many ESCWA member countries, particularly in those affected by conflict, as a result of strong political pressures to incorporate militias, ex-combatants, clan members, making civil services more an instrument of patronage that used the public sector as a social safety net than an effective deliverer of public services. For instance, Palestine has a wage bill amounting to over half of the budget and one-fifth of GDP. In Iraq, the wage bill is estimated to have reached 17 per cent of GDP and, in Yemen, the wage bill is thought to be a minimum of 10 per cent. By comparison, international benchmarks commonly set the ceiling within 6-8 per cent of GDP. As a result, the public sector in these countries has been characterized by absenteeism, rent seeking, very low capacity and productivity; it contributed to higher reservation wages in the labour markets; and it tended to crowd out pro-growth productive and private sector oriented spending.

[241] While reducing import taxes is an easily implementable policy, it has been a controversial debate over the past two years for the following reasons: (a) it can be costly to the budget and can worsen already tight fiscal balances; (b) at least part of the benefit tends to accrue to the non-poor; and (c) unlike VAT cuts, tariff cuts lower importing food prices with the risk of hurting domestic producers at least in the short run.

[242] The World Bank (2006).

[243] The State-run food subsidy programme, considered a major component of the social safety net for the poor in Egypt had an estimated financial cost of 2 per cent of GDP before the rise in food prices and was considered very expensive and ineffective. Between one-quarter and one-third of the poor did not benefit from it, and around 83 per cent of the value of the food subsidies went to the non-poor. Moreover, the poor and vulnerable households that actually benefited from the programme received so little that the system was able to effectively lift only 5 per cent of the population out of poverty. With higher prices and more people falling into poverty as a result of price shocks, it may be deducted that, despite the increase in the number of beneficiaries, existing social safety nets may have had a limited impact in mitigating the adverse effects of the economic crisis on the poorest segments of the population, such as single mothers, widows, the unemployed, the elderly or the disabled. The World Bank (2005d), the World Bank, FAO and IFAD (2009).

[244] The World Bank (2008b). Fuel subsidies in Yemen almost equate spending on public wages and salaries and are three times larger than transfer payments to households. Unlike Yemen, the Sudan does not seem to have sizable fuel subsidies in place.

[245] The World Bank (2006). In Egypt, rich households tend to benefit much more from subsidies on petroleum products than do poor households at 34 per cent for the top quintile compared to only 13 per cent for the poorest quintile. See the World Bank (2005d). Based on the results of this study, if current non-kerosene energy subsidies were cut by half and the saved revenues were used for cash transfers to the entire population of Egypt, the incidence of poverty would be cut to 13.5 per cent from a level of around 20 per cent, resulting in some 4.2 million people being lifted above the poverty line. If targeted transfers were attempted, the reduction in poverty would be even higher.

TABLE 21. POLICIES ADOPTED BY ESCWA MEMBERS AGAINST FOOD INSECURITY

	Reduce tax on food	Export restrictions	Increased stocks	Price control/subsidies	Cash transfer	Salary increase	Food ration/aid	School feeding
Egypt	x	x	-	x	x	x	x	-
Iraq	x	x	x	x	x	-	x	-
Jordan	x	x	-	x	x	x	x[a/]	x
Lebanon	x	-	-	x	-	-	-	x
Palestine	x	-	-	-	x	-	X	x
Saudi Arabia	x	-	x	-	-	-	-	-
The Sudan	x	x	-	x	-	-[b/]	x[a/,c/]	?
Syrian Arab Republic	x	-	x	x	x	-	x[a/]	x
Yemen	-	x	x	x	x	X	x[a/,c/]	x[a/,c/]

Source: Compiled by ESCWA.

a/ Food rations delivered to refugees/IDPs.

b/ The Government of South Sudan decreased the salary of senior civil servants.

c/ Activities coordinated outside national institutions and by relief agencies.

A wide variety of safety-net programmes have been established in developing countries, with the goal of reducing poverty. Safety net programmes, such as cash transfers, are believed to be in principle more effective to benefit the poor. These programmes prove particularly useful in the aftermath of a conflict as they help families immediately and contribute to break the spiral of vulnerability typical of a post-conflict setting. However, it is important to bear in mind that even well-designed and implemented safety nets programmes cannot by themselves guarantee food security unless they are accompanied by poverty reduction strategies that increase real incomes of the poor in the medium and long term. Efficient safety nets are generally well targeted and flexible so that they can be cost-effective in reaching the people in need and can be scaled up or scaled down based on the likelihood of occurrence of systemic (or covariate) shocks. Efficient targeting requires reliable and up-to-date data to identify and locate the needy, good analysis to link policy and their impacts on poverty, and capable organizations that can learn from experience and modify policies when needed.

However, many programmes in the region do not possess such requisites and sometimes, when the institutional capacity is limited, can cause duplication and waste of resources. For example, safety nets in Palestine are provided through a complex web of programmes supported by the Government, international donors, NGOs and charitable organizations, some of which may have the same target populations.[246]

The main social assistance programmes implemented in the ESCWA region are set forth below, with a brief description of their characteristics.

(a) *Universal food subsidies*

Universal food subsidies reduce the cost of selected foods, usually basic staples, for the benefit of all consumers. The advantages include relatively simple administration (no targeting) and the fact that the relative benefits are greater for poor households given that food, particularly basic staples, are a larger share of the budgets of poor households. In the 1980s, Egypt, Jordan and the Syrian Arab Republic offered universal food subsidies for such goods as bread, wheat flour, cooking oil and sugar. Subsidies in Yemen in the 1990s consumed more than 16 per cent of the Government budget and almost 5 per cent of GDP, and yet only 7 per cent of the benefits apparently reached the poorest quintile of the population.[247]

[246] Commendably, in order to harmonize such programmes, the Palestinian Ministry of Social Affairs has recently produced a National Social Protection Sector Strategy.

[247] The World Bank (1999).

These programmes have become less popular in the past 15 years for several reasons, including the high fiscal cost, the leakage of benefits to non-poor households and the low coverage among some groups of poor households, particularly in rural areas. As a result, they have tended to crowd out spending on other, more effective and efficient social programmes. Iraq currently has the largest programme in the region. A review of 15 food subsidy schemes has found that only three of them were progressive in the sense that the per-person benefits are greater among the poor than among the non-poor.[248] By the late twentieth century, food riots became a common expression of discontent over the worldwide trend of dismantling these subsidies in the wake of the structural adjustment programmes led by IMF and the World Bank. Reducing food subsidies and raising prices led to riots in Egypt in 1977, Morocco in 1981, Tunisia in 1983, and Jordan in 1989 and 1996. Lessons learned from international experience show that the timeframe for eliminating or reducing general food ration programmes is very long, with changes made in a staggered fashion, while replacing them with other more efficient safety net programmes. Public information campaigns are crucial and need to stress the high cost of programmes and the alternative uses of subsidy budgets.

(b) *Targeted food subsidies*

Such subsidies make food available to selected households through low-price shops located in poor neighbourhoods or through some form of ration cards that entitle bearers to purchase food at subsidized prices. Five basic mechanisms are most commonly used, namely: means testing, categorical and geographical targeting, community-based methods, proxy-means testing and self-targeting.[249] Egypt and Jordan have attempted to introduce targeting into their food subsidy programmes.[250] In the case of Egypt, however, corruption and political pressure apparently led to a situation in which large numbers of non-poor households held ration cards. Efforts to narrow eligibility faced strong political opposition.[251]

In-kind food distribution systems entail high administrative and storage costs. Where there is a substantial difference between ration sales prices and open-market prices, leakages can be substantial as evidenced in Bangladesh in the 1980s and Mozambique in the 1990s. The risk of elite capture can typically occur in these kinds of programmes, whether designed as top-down or community-based intervention, given that the aims of traditional authorities can relate more to maintaining social relationships and community cohesion rather than addressing inequity.[252] Methods of targeting vary and are probably all fraught with some side-effect. The trade-off is typically between the amount of detailed information, on one hand, and budget and timeliness, on the other. Some positive experiences, however, come from self-targeting programmes implemented in South Asia, where many countries have targeted subsidies on inferior goods, including, for example, coarse rice in Bangladesh, which discourage the better-off families to participate in the programme owing to a social stigma attached to it. At some cost of precision and perfect targeting, these programmes do not usually require large amounts of data to be implemented, avoid problems of asymmetric information and moral hazard, have low administrative costs, are less prone to corruption and waste, have the flexibility to respond to changing socio-economic conditions, and are more easily phased out as the country develops.[253] Targeted subsidies like the latter have also the positive effect of curbing less agricultural production unlike universal subsidies.

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[248] Coady, Grosh and Hodinott (2002).

[249] Means-testing is much less common in developing and particularly in conflict-affected countries where informal labour markets are widespread, incomes cannot be verified, and monitoring mechanisms can be weak.

[250] Coady (2004).

[251] Kherallah et al. (2000).

[252] In normal times, the most food insecure people tend also to be the most marginalized at the local community level, and it is the social and political elites that benefit the most from community-based distributions. Matus (2006) showed this effect in his study on the Sudan.

[253] For example, in some countries, unattractive packaging was used to make food rations less attractive to better-off consumers, while maintaining the intrinsic quality of the food. Sometimes, higher-quality food (so-called "superior goods") with a lower subsidy/higher fee rate was introduced in parallel targeting the better-off households.

(c) *Labour-intensive public works programmes (PWPs)*

Labour-intensive PWPs usually combine such labour-intensive infrastructure projects as soil conservation, feeder roads and drainage construction and maintenance in rural areas with hiring policies to maximize the pro-poor impact. These programmes have had a significant countercyclical function helping poor farmers to cope with covariate risks associated with systemic shocks in many countries in Asia and Africa.[254] Consequently, PWPs can potentially provide transfer benefits together with risk-coping benefits and with the overall improvement of the infrastructure base of an economy. If designed well, they can improve community infrastructure and provide assistance to the poorest households with able-bodied members.

The usefulness of PWPs depends on the following main criteria: (a) they should provide income transfers to the poor on a temporary basis so as not to develop any risk of dependency and moral hazard; (b) their timing is important so that they do not conflict with important stages of the cropping seasons; (c) infrastructure works must be selected based on stringent criteria that prove direct developmental impact on the local economy and their ability to generate first- and additional second-round employment benefits;[255] (d) the programmes are objectively and specifically targeted to geographic areas that have high unemployment or poverty rates or, as in the case of post-conflict areas, where there is a high concentration of youth and former military and militia, thereby helping to reintegrate these groups and stabilize the social fabric in a region or country; (e) support and use of small private contractors is important in implementing the work; (f) the wage rate needs to be somewhat below the prevailing wage rate so as to promote self-targeting in that the more well off members of the community will not find it worthwhile to participate, while the poor will; (g) special attention in the design should be paid to women's specific needs, including their time management and potential conflicting tasks that could arise; (h) a decentralized implementation tends to improve flexibility and accountability and therefore should be a criterion in the design and implementation of a programme; and (i) strong monitoring and evaluation is crucial to understand the impact on the poor and optimize it.

A fundamental prerequisite of a successful implementation of PWPs is sufficient capacity on the government side to set up the required administrative machinery. This explains why many of these programmes are launched with donor support and technical assistance. One drawback of these programmes is the high cost of supervising the work relative to that in cash transfer programmes. In addition, these programmes cannot assist those unable to work owing to age or disability. Finally, there is a tradeoff between the goal of providing quality public infrastructure, which often requires semi-skilled labour, and the goal of serving the poorest members of the community, who do not have these skills. Special concerns have been voiced about the labour market effects of ill conceived food-for-work (FFW) projects, which may distort local labour markets by attracting workers away during the agricultural year, especially if the wages offered under FFW schemes are at or above prevailing market wage rates. However, FFW schemes can also create valuable inputs, especially public goods, such as feeder roads and reforestation or soil and water conservation structures to reduce soil erosion.[256]

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[254] The World Bank (2003).

[255] The choice of labour-intensive projects is particularly critical as many have performed poorly in this respect. For instance in Egypt and Yemen the wage bill constituted 30 per cent of project costs compared to 70 per cent in the Maharashtra Employment Guarantee scheme in India. The World Bank (2002).

[256] For example, von Braun et al. (1999) report on the multiplier effects of a FFW-built road in the Ethiopian lowlands, where improved market access directly attributable to that road led to the establishment of water mills and fruit plantations and the revival of traditional cotton spinning and weaving after the road was built. Moreover, well conceived and managed FFW projects that invest in necessary materials to complement labour inputs can "crowd in" private investment, as Holden et al. (2003) find in the case of private investment in soil and water conservation structures. They also found that the success of FFW investments in stimulating on-farm soil conservation, increase in sustainable agricultural productivity, and income growth depend crucially on a number of conditioning factors, including careful identification of investment projects, local involvement in implementation and maintenance of investments after the project, clear specification of property rights to the investments, implementation only where private capacity are limited, and right timing of projects in order to minimize labour crowding out.

"Cash for work" programmes in the region as a response to the crisis have been limited, Yemen being one of the notable exceptions which has implemented such a programme via its Social Fund for Development (SFD), which secured a grant from the World Bank to finance cash payments to the needy for community-based, labour-intensive work.

(d) *Cash transfer programmes*

Cash transfer programmes offer recipients greater freedom in how to use the transfers and, moreover, offer benefits in stimulating the local economy through multiplier effects when the recipients spend them on goods and services, thereby generating further income and employment. Transfers have even more benefits for food security when they go to poor farmers who spend at least a part of their incremental income on producing more food. Proponents of cash transfers argue that in general the logistics are simpler than in-kind transfers and therefore less costly. Timely cash transfers also help to prevent small producers from falling into debt or resorting to such measures as removing children from school, and instead allow them to accumulate productive assets.

However, they do have shortcomings, including as follows: (a) they cannot protect households from inflation or price fluctuations, which have been common during the food crisis in the ESCWA region; and (b) the financial system in poor countries and particularly in conflict-affected countries is often inadequate to handle a system of a huge number of transfers with small amounts given the rudimentary state of the payment systems and inaccessibility in some regions for geographical and/or security reasons.

Cash transfers can be unconditional or conditional. The former can be universal or proxy means tested (for example in Palestine), while the latter are usually proxy means tested. Conditional cash transfers have generated considerable interest among researchers and policymakers in the past 10-15 years. These programmes provide cash grants to households that comply with certain requirements, usually keeping children in school, attending health clinics or receiving pre- and post-natal care. Similar to food-for-work programmes, conditional cash transfers serve a dual purpose, namely: providing assistance to poor households and encouraging investments in human capital, owing to high income elasticity of demand for education, that reduce the chance of poverty being transmitted to the next generation.[257] School feeding has been shown to increase school attendance, particularly of groups that often are not in school, such as girls; and to improve school performance where hunger and malnutrition are the constraint to performance. The Progresa Programme in Mexico, for example, has been reported as a success story and is one of the more widely studied conditional cash transfer programmes. In 2005, it reached more than 4 million families with an annual budget of only 0.3 per cent of GDP. This success can be attributed to robust monitoring and evaluation, in addition to a wealth of collected data. Studies show that it has been successful in increasing school attendance, reducing the incidence of child labour and improving child health.[258] However, conditional transfers have been tested mainly in Latin America where relatively developed service delivery systems are in place and the experience in conflict-affected environments is more limited. Yemen has introduced a school feeding programme specifically targeted for girls with the help of WFP with reported positive results. However, in July 2009, WFP issued an urgent appeal for $23 million in financial support specifically targeted at women and children, stating that without increased support to its operations the FFE programme would be at risk.[259]

[257] Evidence has shown that conditional in-kind or cash transfers are effective and efficient in improving nutrition with the following conditions: (a) when food assistance is delivered timely after a shock – this would imply an effective early warning system, easily applicable and transparent target criteria, a functioning storage and distribution network; (b) when transfers are made conditional upon beneficiaries using health and nutrition services that help to change household behaviour in favour of healthier lifestyles; and (c) when food supplements for children under 24 months are used to educate mothers about healthy feeding criteria.

[258] Skoufias (2005); and Gertler (2004).

[259] AFP (2009).

(e) *Nutritional support programmes*

As highlighted in the previous section, these programmes are important for protecting vulnerable children in the first 24-36 months of life. Prenatal and early childhood undernutrition can result in permanent health problems. Given that adult health is among the strongest and most important links to adult labour productivity and earnings, prenatal and early childhood nutritional support programmes are among the most important long term interventions in a post-conflict context. Moreover, the increased use of blended and micronutrient fortified foods in refugee and school feeding programmes opens up possibilities for contracting with recipient country processors, perhaps using raw commodity to help pay for the processing costs, thereby providing a minimum efficient scale of operation to justify initial investment in equipment and training.

However, while operational methods for using food aid in support of maternal and child health programmes have improved steadily over time, food aid is generally an expensive way to support such programmes, and non-food requirements for this kind of support are often insufficiently funded. Given that safety nets require the reliable presence and functioning of government or NGO providers, however, they are typically not viable where vulnerability results from conflict or poor governance associated with a failed State. Safety nets have therefore tended to function best in insuring against climatic, economic and health shocks, and less well in protecting against those related to conflicts or civil unrests.

Official social safety programmes in the ESCWA region have historically tended to be urban biased. Heavily centralized governments have experienced great difficulty in designing and implementing such programmes for the dispersed rural population. In fact, it is likely that family and personal networks account for the majority of safety nets in rural areas, and that charity and religious institutions provide significant assistance to the most vulnerable. Many households rely on such coping arrangements as keeping multiple jobs. In addition, anecdotal evidence shows that the level of contributions through *zakat* and *waqf* funds is remarkable although poor reporting mechanisms do not give evidence of their impacts. This should encourage governments and development actors to integrate closer with communities, and the private sector to monitor and provide services as well as actively seek to partner with communities, NGOs and faith-based organizations in order to coordinate the design, monitoring and delivery of services.

Recommendations

The recommendations can be summarized as follows:

(a) To increase diversification of the economies and private sector growth in the region, thereby raising returns to education;

(b) To update education curricula, particularly in public schools, and tailor them on private sector needs;

(c) To allocate budget for capital investment that has an impact on human development in targeted areas with higher concentrations of the poor, including schools, healthcare facilities, supply of water and sanitation;

(d) To strengthen institutional capacity and instill an “evaluation culture” in the policies dealing with human development and social policies commensurate with the institutional capacity;

(e) To improve the targeting of safety nets to the lowest two quintiles based on the institutional capacity and by using self-targeting methods, particularly when institutional capacity is low, including, for example, by using types of commodity largely consumed by the poor;

(f) To reduce gradually fuel subsidies and replace them with better targeted interventions;

(g) To improve coordination between agencies with overlapping mandates or beneficiaries. For example, ministries, NGOs and Islamic charities tend to operate independently of one another. Moving

forward in this context involves actively reaching out to partner with communities, NGOs and faith-based organizations in order to coordinate the design, monitoring and delivery of services based on clear accountability criteria;

(h) To build on existing policy instruments based on existing institutions, particularly when reacting to economic shocks, rather than trying to develop completely new programmes or social institutions, thereby mitigating risk;

(i) To link data sources from various agencies, such as ministries, statistical offices, central banks, pension funds and charities, among others, to produce reports on programme recipients and effectiveness;

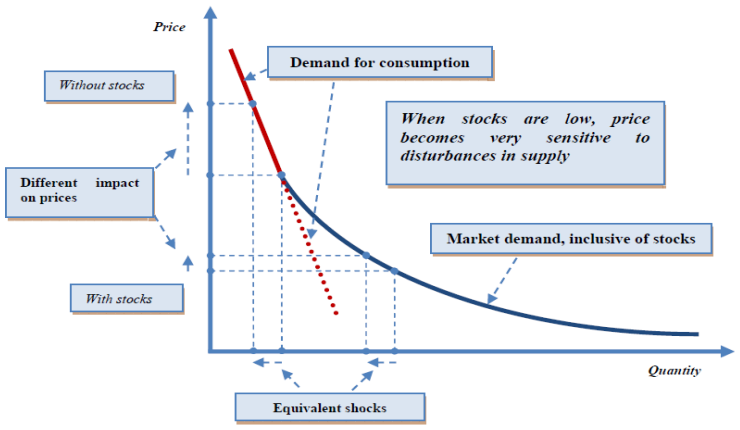
(j) To establish regular regional discussions on lessons learned on the design and implementation of safety net policies in conflict-affected environments, for example, in which circumstances the use of cash instead of in-kind types are appropriate.

G. FOOD STOCKS

Another way to address food security, particularly when a food crisis unfolds, could be through the creation of grain reserves in the region. The recent Comprehensive Framework for Action, produced by the United Nations High-Level Task Force on the Global Food Crisis, urges countries to use national stocks of food to stabilize prices in the short term at times of price volatility. However, it suggests that rather than holding national stocks it would be better to develop regional stocks or make food reserve agreements.[260]

The underlying economic rationale is as follows. The demand of staple crops, such as cereals, generally tends to be inelastic (as depicted in the red straight line in figure 25). This is even more so in countries where poverty is higher. When prices reach a level considered alarming for vulnerable groups, stored cereals can be released on the market, making aggregate demand more elastic and, in this way, helping to smooth out the negative effects of price shocks.

Figure 25. Consumption-smoothing effect of stocks



Source: Wright (2009).

In countries such as Bangladesh and India, domestic procurement, public distribution and government stocks have played a central role for price stabilization and emergency relief within their budget constraints. Food stocks serve different purposes as they can be used for emergency aid during a shock or as a buffer to stabilize prices. Government domestic procurement of key food commodities could serve to boost domestic

[260] An example of regional reserve is the East Asia Emergency Rice Reserve program established by ten ASEAN member states, China, Japan and republic of Korea which seems to have contributed to price stability in that region.

production (if there is a sufficient one) and replace food aid in the food deficit regions. In food-surplus regions, on the other hand, safety nets could rely more on income transfers rather than in-kind transfers. Sometimes, a mix of internationally and domestically public procured food together with private wholesale market operations to supply food scarce internal markets can be a viable option, provided that safety nets are in place and marketing reforms can bring down transaction costs (and therefore import parity prices).

Large-scale food market interventions and increases in production have resulted in long-term declines and stabilization of prices in India. This has also helped to stabilize food prices in the neighbouring countries, such as Bangladesh. Similarly, the Sudan has a huge untapped production potential and is the neighbor of Egypt and Saudi Arabia, both large net importers. If the Sudan could undertake such reforms, its long-term benefits in terms of price stability and bridging production shortfalls would be shared with the rest of the region.

Alternatively, large regional grain reserves, which have been established either physically or virtually by means of financial derivative instruments, could be controlled jointly by national governments in order to mitigate global food supply crises, thereby economizing on stocks and storage costs in terms of providing a regionally adequate amount of storage. Given that Arab countries are the larger net importers of cereals and that grains markets are thin, such reserves could help to maintain the stabilizing role of free international trade in grains. They would also work as an emergency reserve to respond quickly to regional emergencies in order to speed up responses of relief agencies in aiding groups in distress. The physical reserves should be strategically located in places with favourable climatic conditions.

However, one has to bear in mind that the management of food reserves is costly and requires a good regional as well as global market and production information system. The risk of petty politicization of such a management and of crowding out the private sector and of creating disincentives for traders need also to be factored in. Therefore, decisions related to food reserve sizes need to reflect both the advantages of secure supplies - but only in time of objective crisis and for a carefully targeted population - and the substantial costs of acquisition, storage and administration, in addition to the existing institutional capacity in the region.

Recommendations

The recommendations can be summarized as follows:

(a) To conduct a thorough feasibility study on the establishment of a regional (physical and virtual) stock in the ESCWA region using a combination of pre-positioned stocks, forward purchases (see section H.3), and contingent purchases;

(b) A regional reserve should in case be strategically located in secure areas benefitting from satisfactory infrastructures and logistical services (locations worth being investigated could be, for example, Aqaba in Jordan and Port Said in Egypt);

(c) To improve the accuracy of and access to information on regional and global strategic grain stocks so as to enhance market confidence and policy decision-making in the region.

H. FOOD SECURITY AND FINANCIAL INSTRUMENTS

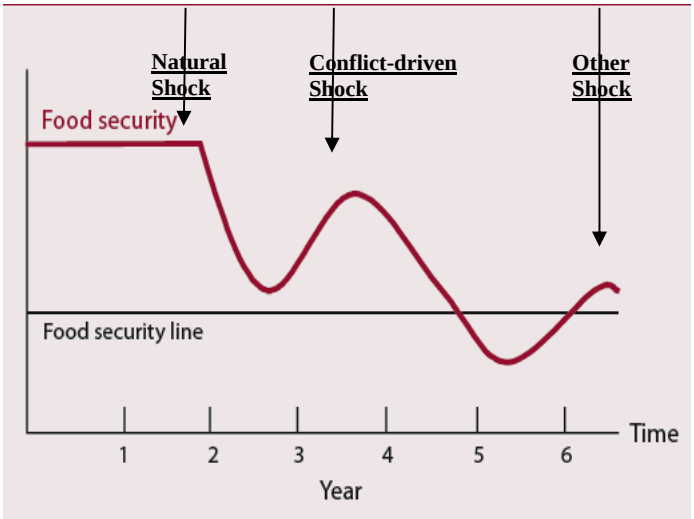
1. *Insurance against risk*

The problem of food insecurity, like that of poverty, can often be traced to macroeconomic conditions and market failures. Farming communities and others can suffer from food insecurity because of the actions of exploitative intermediaries, including landowners, moneylenders and traders. One of the most severe problems in the region is the shortage of affordable credit. Desperate for cash, small and marginal farmers, for example, are forced to sell their crops immediately after the harvest to middlemen or their creditors when their margins are lowest or nonexistent.

Reducing the risks faced by poor households is essential to improving their welfare in the short run and their opportunities for income growth in the long run. Vulnerability to shocks makes poor households risk-averse in their asset-allocation strategy, and this aversion is even more pronounced in conflict-affected areas that are often characterized by a cascading series of a combination of conflict-related and natural shocks, with the result of ever-decreasing food-security levels and of passing up riskier albeit more profitable businesses, such as the production of higher-value crops (see figure 26).[261]

Short-term shocks can have long-lasting effects in many parts of the ESCWA region as well. Complementing social protection with market-based and government-supported forms of insurance can help the poor to improve their risk-coping strategies and improve their development prospect. Closely related to the traditional character of farming in the region is the fact that insurance markets against natural events are largely missing. Community-based responses generally rely on informal but well-informed contracts of mutual support. However, they may exclude certain groups, including, for example, women, ethnic minorities, persons with disabilities or those at the bottom of the pyramid. They are also hampered by limited resources, both human and financial, and so cannot usually address covariate risks, particularly in the wake of disasters. In these circumstances, they work best in combination with official safety nets.

Figure 26. Cascading series of shocks in a typical conflict-affected area



Source: ESCWA.

Insurance markets could provide many valuable services to agriculture for the following reasons: (a) the availability of insurance schemes makes the future more predictable and promotes therefore more investment; (b) as financial and insurance markets emerge, the demand for financial derivatives of agricultural markets further deepens financial markets; (c) insurance schemes are natural substitutes for the subsidy programmes that have been phased out by many governments; (d) the presence of crop insurance schemes tends to create a more favourable business climate, thereby stimulating investment in agriculture that otherwise would not occur; and (e) climate change is expected to make food production prices more volatile. By doing so, crop insurance schemes may contribute to empower farmers more than social assistance programmes can do in some circumstances.[262]

[261] Regardless of shock intensities, conflict-related shocks tend to have longer-lasting effects on vulnerability, poverty and food security when compared to natural disasters owing to the disruption of the institutional set-up that the former often entail, which tend to weaken copying mechanisms and recovery capacity.

[262] In 2006, WFP has started a pilot programme using index insurance tied to rainfall to finance emergency response to drought in Ethiopia. Recently, the World Bank has also been piloting various climate-based insurance products aimed at addressing covariate risk.

However, whether insurance schemes will evolve even under the most favourable market conditions is still an open question in the light of the upfront costs that insurance premiums impose on the budgets of poor farmers and the strong exposure to such systemic risks as region-wide droughts, pests and floods, in addition to conflict.

Insuring crops based on actual damages is often associated with high administrative costs, adverse selection and moral hazard. In developing countries, including those in the ESCWA region, agriculture land is divided among very large numbers of farmers, resulting in large numbers of small farms. Farmers usually have better information about their production and can evaluate the premium more than the insurer. The insurers lack the relevant historical yield data that are necessary to evaluate the efficient premium. Hence, the better evaluation provided by farmers will result in buying the insurance only if the expected indemnities exceed the premium; this translates into a side benefits for the farmers at the expense of the insurers whose total expected indemnities exceed the total premiums. According to Coble and al., moral hazard practices will increase in bad seasons that will intensify the insurers' losses.[263] Consequently, high administrative costs, adverse selection and moral hazards associated with insurance based on the actual damage will be translated into higher premiums that could not be afforded by farmers. This problem will likely be even more marked in an environment that is characterized by fragile institutions and low levels of security.

Multiple peril insurance has proved to be a failure in several developing and developed countries. The indemnities and the administrative costs are, on average, around four times the premiums. Skees shows that insurers cannot sustain the huge losses without continuous and significant subsidies from governments.[264] Such government subsidies can risk contributing to more market inefficiencies and price distortions.

A publication issued by Columbia University in partnership with UNDP, IFAD, WFP, OXFAM and others points out that "index insurance represents an attractive alternative for managing weather and climate risk because it uses a weather index, such as rainfall, to determine payoffs. This resolves a number of problems that make traditional insurance unworkable in rural parts of developing countries".[265]

However, historical data and information are key factors in any successful index crop insurance. Crop insurance programmes are often terminated owing to a lack of sufficient data, high concentration of risks, insufficient funding, inefficient premiums and lack of qualified and trained personnel. Historical data and information are useful for both farmers and crop insurance firms. The farmer will be better informed of what to produce and when to produce it. The firms will have the data and information to set the indemnities and the premiums and to ensure sustainable business. For these reasons, governments should start collecting and accumulating as early as possible historical data and information that are related to weather conditions, including, for example, rain levels, temperatures, humidity and drought seasons; ecological changes, such as desertification; and agricultural issues, including, among others, average production per acre, water needed per acre and water availability.[266]

While crop insurance markets bear risk of failure under the given constraints, it may still be worth considering State-funded crop insurance schemes, even if they can be loss-making. This is simply because of the fact that if governments do nothing to support rural livelihoods, they may still have to pay for a web of complex social assistance programmes. Governments can play a crucial role in providing public goods, such as an enabling regulatory framework, that entails lower transaction costs, educating small farmers to

[263] Coble and al. (1997).

[264] Skees (2003).

[265] Hellmuth et al. (2009).

[266] The implemented programme in Mauritius, for example, developed a sophisticated method to reward farmers whose claims have provided the insurer with valuable information. The farmers are placed on a 100 point scale; the premium and the indemnities are based on the scale position; the better information obtained from the claim, the higher the position in the scale. This method encourages the farmers to provide true information that is necessary for the insurer to determine the premiums and the indemnities and, therefore, improves the efficiency of the crop insurance market.

financial literacy, and establishing automated weather-based stations that can generate reliable historical and geographical data to enable actuarial analyses, part of which is remotely-sensed and satellite-based that can be used for index-based insurance.

Recommendations

The recommendations can be summarized as follows:

(a) A thorough assessment about the opportunity to introduce index-based crop insurance should be conducted in the most agriculturally relevant countries of the region. The assessment should also include the relevant conflict-affected countries given their agricultural potential;

(b) Crop insurance in the ESCWA region can help to divert risks associated with a single and specific shock that can be predicted and last for a given and known period of time, such as hail, fire and flood. Insuring against such single risks can be efficient, helpful to farmers and profitable to insurers if it is based on reliable and historical data;[267]

(c) ESCWA member countries need to assess the possibility of introducing index-based crop insurance with a broader view concerning its adoption. In addition to targeting the insured farmers and, the goal should have wider social dimensions that serve the entire community by supporting higher productivity, employment and economic growth;

(d) Governments in the ESCWA region need to prepare and approve the legal grounds and codes that specify the conditions, rights and obligations of all parties involved. The new laws must be clear, transparent and take into account the interest of different parties. The governments should stand ready to enforce these laws wherever necessary;

(e) Any crop insurance business in the ESCWA region should preferably and wherever possible be run by the private sector in order to ensure more efficiency. However, owing to harsh weather and ecological conditions, the private sector will not be able to divert all risks and will not be able to cover all losses that might incur. The public sector could therefore provide further help to farmers and to provide reinsurances, especially during the initial stages;

(f) The area-yield basis can be more effective in lowering the costs of asymmetric information than the farm-yield basis. Specifically, it lowers the cost of the adverse selection by requiring less information about the farm yield; it lowers the costs of moral hazards by separating the insurance base from the farm's individual yield; and it lowers the administrative costs given that it requires less information to set premiums and indemnities, and requires less paper work and fewer field visits;

(g) A large insurance coverage could increase the participation rates, decreasing the correlation among individual farm-level yields, thereby spreading the risk among farmers; and decrease the costs associated with the adverse selections and the moral hazards, thereby resulting in cheaper and more efficient premiums. While compulsory insurance may raise policy issues, when the underlying economic conditions allow it, a wide array of incentives should be used in order to expand coverage;

(h) Governments need to perform the necessary feasibility studies in order to convince and attract insurance firms, especially in insuring a single risk. Within that context, governments could seek the help of specialized United Nations agencies, such as FAO. Moreover, governments need to educate farmers of the new crop insurance idea and the associated benefits, which can be achieved using the media, agricultural stores (where farmers buy seeds and fertilizers, for example), and banks and/or microfinance institutions (MFIs);

[267] The Syrian Arab Republic is among very few countries in the ESCWA region that insures against hail.

(i) At least during the initial stage of implementing crop insurance, governments must be ready to subsidize the insurer for losses originated from the lack of historical and reliable data. It is also worth considering for governments to subsidize farmers' premiums, at least at the beginning of the programme, in order to encourage participation and provide opportunities to discover the benefits of crop insurances;[268]

(j) Governments should carefully consider abandoning the relief funds for shocks covered by crop insurance. Double coverage of the same event could discourage farmers from buying the premiums, thereby resulting in a low participation rate. In turn, a low participation rate would apply more pressure on governments to help a substantial number of farmers in the event of a disaster, thereby decreasing the chance for successful crop insurance;[269]

(k) Crop insurance is not recommended in the ESCWA region for diverting systemic risks in agriculture, which stem from prolonged and unfavourable weather-related events that induce significant correlation or lack of stochastic independence in individual farm-level yields. Such weather events include drought, flood, windstorms, high temperatures and landslides. Systemic risks impose greater challenges to implement crop insurance than the asymmetric, information-type of insurance given that such risks depend on the natural environment, cannot be avoided, occur unexpectedly and impact entire geographic regions for a long time (more than one growing season). In addition, systematic risks can be costly to insurers as it is hard to calculate fair premiums to cover large indemnity payments and to determine the sufficient reserves for low probability but high loss events;[270]

(l) Given the typically high transaction costs of insurance instruments, governments need to identify suitable aggregators of risk, such as farmer associations and NGOs that can be active in this sector. Farmer associations, in particular, can be very helpful in acting as intermediaries, and in educating farmers on crop insurance and ways to apply them;

(m) The costs of using these financial instruments in countries suffering from conflicts can be too high and exceed any possible gain from using them. Governments in the region together with development partners could provide initial assistance in building a system of data collection in areas with particularly high agricultural production potential within conflict-affected countries and territories.

2. *Credit markets*

Closely related to missing insurance markets is the challenge of lacking or limited credit markets for agriculture.[271] Some banks have even started to provide loans upon mandatory condition for borrowers of being insured against climate shocks in disaster-prone areas.[272] The relationship between domestic credit available to the private sector and various indicators of agricultural productivity is extremely strong. Specifically, the availability of domestic credit correlates strongly and positively with cereal yield and the

[268] In South Africa, for example, the Government's decision to lower premium subsidies resulted in expensive premiums, low participating rates and the failure of South Africa's crop insurance scheme. It is important to note, however, that Nieuwoudt and Bullock (1986) and Goodwin (1993) showed that the demand for crop insurance is generally inelastic, which implies that significant subsidies are required to stimulate the demand for crop insurance and to increase the participation rate.

[269] For instance, disaster relief funds in the United States discouraged participation in crop insurance by about 20 per cent. Nieuwoudt and Bullock (1986). Moreover, the disaster relief fund contributed significantly in the failure of the crop insurance in South Africa in 1990s.

[270] Wenner and Arias (2003). Systemic risk ratios indicate that United States crop insurance face a portfolio risk that is 22 to 49 times larger if indemnities are independent. The coefficient of variation of total indemnities paid by the ten crop insurers ranged 67 per cent to 130 per cent while variation ranged between 5.3 per cent to 5.6 per cent for automobile and fire insurers. Miranda and Glauber (1997). For these reasons, crop insurers were very wary of covering droughts in parts of developing world: Southern and Eastern Africa, Sahelian Africa, Horn of Africa, North Africa, Eastern Europe, Central and East Asia, South Asia, Central and South America.

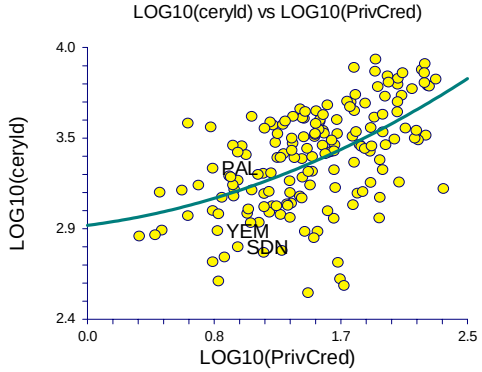
[271] While data on credit to the agricultural sectors is not available, credit to agriculture can be assumed to be highly correlated with credit to the economy as a whole, for which the 2009 World Bank Development Indicator (WDI) database has data.

[272] See, for instance, Caisse Nationale de Credit Agricole in Morocco.

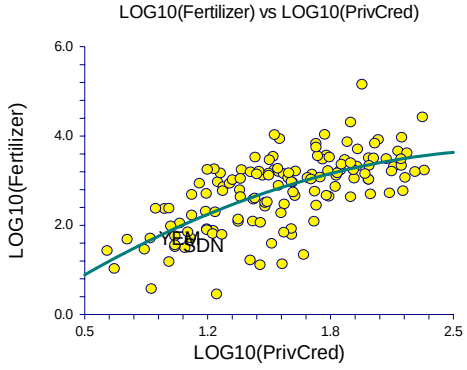
use of fertilizers (see figure 27). The development of credit market, on the other hand, is strongly and negatively correlated with farm size and a country's Failed State Index.

Figure 27. The role of private credit for agricultural productivity, 2003-2007 averages

Cereal yield vs. credit available to the private sector (*% GDP*)



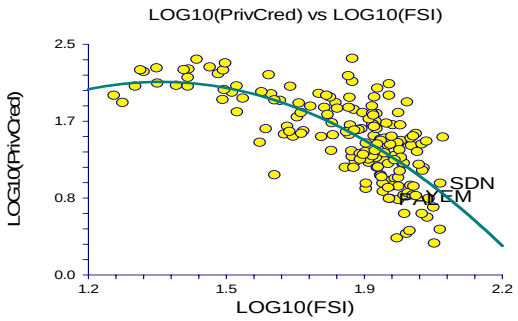
Fertilizer use vs. credit available to the private sector (*% GDP*)



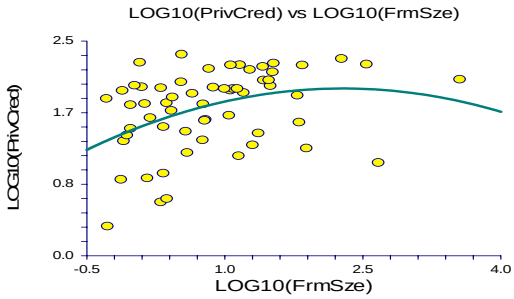
Source: ESCWA calculations based on FAO (2010) and the World Bank Development Indicator (WDI) database (2009).

Figure 28. Farm size and conflict vs. private credit, 2003-2007 average

Average farm size vs. credit available to the private sector (*% GDP*)



Failed State Index vs. credit available to the private sector (*% GDP*)



Source: ESCWA calculations based on FAO (2010) and the World Bank Development Indicator (WDI) database (2009).

The rural areas and the farmers of the ESCWA region have been neglected for a long time. Providing credits to farmers and improving financial markets could help to increase the income and standard of living of farmers and, moreover, contribute significantly to accelerated agriculture sector growth, rural growth, lower unemployment, higher national GDPs and reducing poverty in the rural areas of the region in line with MDGs set by the United Nations.

Farmers in the region are in urgent need of agricultural loans and finance to purchase machines and inputs, develop their farms and harvest and market their products. However, their access to finance and agricultural loans are very limited (see table 22).[273] Farmers lack the right asset to be used for collateral. In addition, the agriculture sector's risk remains the highest among other economic sectors for several reasons,

[273] For instance, in Lebanon, despite the country's strong banking system, rural credit through banks is estimated in the 1-2 percentage range. In the Sudan the bank credit supply to the agricultural sector as a percentage of credit to all sectors has been declining since the 90s dropping from an average of about 28 per cent in the period 1995-2000 to 11.6 per cent in the 2001-2006 period. Small-scale farmers obtain only a very small percentage – usually below 5 per cent – of all formal agricultural credit contributing to the lower yields in rain-fed rural areas of the country. Increasing the volume of agricultural finance is one of the priorities of the Agricultural Revival Strategy.

including as follows: such natural events as droughts, weather, pests and diseases; volatilities in agricultural yields and prices; foreign competition; lack and/or inability of coordination between farmers that result from overproduction of specific crops and the slump of prices; and the lack of agriculture R and D that deprives the farmers of efficient and cheap ways to produce competitive goods. Governments agricultural subsidies have often proved to be the wrong prescription given that they are associated with complex bureaucratic procedures, corruption and inefficiencies.

Country	Percentage
Egypt	4.7
Jordan	2.5
Oman	0.3
The Sudan	0.3
Syrian Arab Republic	8.0
Bangladesh	14.1
Thailand	15.0

Source: FAO (2006) in World Bank (2010).

However, based on several significant experiences in developing countries, agricultural microfinance has demonstrated that it can provide a useful complement to commercial banks in providing credit to farmers. General Assembly resolution 63/229 adopted in 2009 praised microfinance as an effective means to generate productive self-employment, overcome poverty, reduce vulnerability of poor people to crisis, and increase participation, especially of women, in the mainstream social, economic and political processes of society.

Box 4. Microfinance case-studies in conflict-affected countries and territories

Iraq

The microfinance business started in Iraq in 2003 with a grant by a United States worth $30 million. Since then, the industry has flourished with over 19,000 active clients and an outstanding loan portfolio of $26.8 million by 2007.

Currently, the main microfinance projects operating in Iraq are USAID-funded Izdihar project, al-Thiqa project and al-Takadum project. The average loan size in Iraq amounts to $1350, which is substantially larger than in other countries. The nominal interest rate of 16 per cent is about half the global average of 35 per cent. The repayment rate for microloans in Iraq has been as high as 98 per cent.

However, women's access to microfinance remains limited, with only 13 per cent of the loans made to women, despite a number of projects aimed at addressing this deficit.

The United Nations has been involved in microfinance activity in the country. In 2008, it launched three programmes that provided average loans of $1334 for 960 small Iraqi entrepreneurs, 22 per cent of whom were women. The programme created almost 150 new jobs in economically depressed areas and the pay-back rate was 100 per cent.

The main problems facing the microfinance industry remain the enhancement of the legal framework, capacity-building and training, transparency, standards and reporting, the development of a microfinance network and increasing bank linkages as well as the ongoing instability in Iraq.

Lebanon

Over the past few years, many commercial banks in Lebanon have begun to offer microfinance products either through strategic alliance with microfinance institutions (MFI), by developing their own microfinance products or by offering loans to small enterprises with partial guarantees provided by specialized domestic and/or international funds.

The concepts of microfinance and microcredit were introduced to Lebanon in the mid-1990s. The microfinance sector has seen substantial growth in recent years and is expected to continue to expand. However, the industry suffers from a lack of regulation, lack of reliable data and relatively small market.

The microfinance industry in Lebanon is increasingly dominated by three major institutions, namely: Al-Quard Al-Hassan Association, Access to Microfinance and Enhanced Enterprise Niches (AMEEN), and Al-Majmoua. According to an IFC study of September 2007, approximately 29,420 microfinance clients were being served by NGOs, microfinance programmes and MFIs; together, they had an outstanding portfolio of roughly $23.9 million, with an average loan size of $1118.

Box 4 (*continued*)

There are no laws concerning the microfinance industry and the Government has no clear role in the sector. Recently, however, the Government implemented two initiatives, namely: (a) the Economic and Social Fund for Development (ESFD), which was established in 2005 and is funded by the European Union, is aimed at stimulating the outreach of Lebanese MFIs and at supporting income generation, employment creation and poverty reduction; and (b) "Kafalat", which is a Lebanese financial company with a public concern that was established by the Government in 1999 aimed at assisting micro and small enterprises (MSEs) in accessing commercial bank funding.

Palestine

The key challenge for the Palestinian MFIs is how to survive and grow in an environment lacking peace and stability. MFIs provide individual and group mico-lending for micro-entrepreneurs, agricultural loans, Islamic loans and consumer and housing loans. The Palestinian MFIs lack the necessary regulations and legal environment to expand their businesses to provide saving products to the general public or services linked to remittances and payment transfers.

The Palestinian microfinance market hosts many initiatives, including CHF's Ryada, which is considered one of the first credit programmes in the occupied Palestinian territories. The programme was established in 1994 with the support from USAID and operates in both the Gaza Strip and the West Bank. In 2006, its portfolio recorded a substantial annual growth by 66 per cent in terms of outstanding gross portfolio and 40 per cent in terms of active clients.

Moreover, the Palestinian Agricultural Relief Committees (PARC) is a cooperative union of savings and credit associations aimed at developing and protecting these associations by empowering and enhancing their economic and social role in achieving sustainable development in rural and urban areas.

Another player in the market is the Palestinian Business Women's Association (ASALA), which has been actively providing loans to women since 1997.

Source: ESCWA (2009a).

The market penetration of formal microfinance lenders is still low in the conflict-affected countries of the region. For instance, in the Sudan the penetration is around 8 per cent of the total demand and only 1 per cent of the potential market in Southern Sudan (Sudan Microfinance Development Facility Business Plan). Unfortunately, there are still serious constraints to the microfinance industry in the region's rural areas that should be taken into consideration, including the following:

(a) Rural areas are sparsely populated and client farmers are dispersed in vast geographic areas, which usually increase the transaction costs for MFIs;

(b) Rural areas suffer from a lack of physical and technological infrastructures that could limit the microfinance providers to extend their outreach to client farmers;

(c) Farmers are often illiterate and have limited knowledge of finance procedures and requirements;

(d) Farmers are generally poor, have few or no savings and are exposed to high risks (weather, and volatilities in yields and prices, among others). Hence, they cannot provide the adequate collateral, which increases the default risk;

(e) The microfinance business might lack the necessary diversity. Farmers rely heavily on agriculture as the primary source of income. At the same time, the microfinance providers' portfolio would be concentrated with agricultural loans. This lack of diversities could expose the microfinance business to losses;

(f) Rural markets are highly inefficient owing to a lack of information and government subsidies for loans and interests. In such distorted markets, the provider would not be able to determine the efficient price for providing credit and could incur heavy losses;

(g) The microfinance business often operates in an environment of poor data availability and insufficiently qualified staff without adequate management skills; and often in a weak legal system that fails to enforce contracts.

Recommendations

The recommendations can be summarized as follows:

(a) While an agricultural microfinance portfolio could provide credit to farmers, it should normally also be diversified in financial services (for instance, business and mortgages loans) and in clients (rural as well as urban) in order to reduce the risk to the credit provider and to better serve farmers. Providing other financial services, such as savings, insurance and remittances, are essential to develop a sustained rural microfinance business that does not depend on donors and subsidies;

(b) For successful agricultural microfinance, the right legal framework needs to be created by adopting the appropriate legislations and building regulatory capacity in the central banks; the difficult macroeconomic environment can be overcome by collecting and providing the necessary macroeconomic data; and the culture of credit can be spread by educating farmers about its benefits and potentials;

(c) The high cost of reaching clients in rural and remote areas can be overcome by organizing farmers in groups or associations. Farmer association can be very helpful in educating farmers on financial instruments, including, among others, warehouse receipts[274] and ways of pursuing interests collectively;

(d) High costs can also be overcome by establishing the adequate technology infrastructure aimed at promoting effectively the outreach to farmer clients;[275]

(e) Interest rates and loans to farmers should not be subsidized given that it could distort the market mechanism;

(f) Donations and subsidies need to be committed for a considerable period of time, must not create any distortions to the microfinance market, and need to be aimed at capacity-building and at providing extensive training to farmers and to the microfinance local staff;

(g) The management of the microfinance needs to be decentralized and run by locals who are in a better position to deal with local clients.

Applying microfinance in conflict-affected countries and territories is expected to be accompanied by several challenges, including as follows: (a) the insecure environment can deprive the provider of qualified staff who would flee the conflict country; and the provider needs to offer higher salaries to attract qualified staff from abroad or train locals; (b) the security risk can affect the availability of funds and the willingness of savers to lend, and the cost of borrowing increases as well as the operational costs for the providers; and (c) given that conflicts negatively affect businesses and lower the income of the people, the ability to honour payments of microloans on time becomes more problematic. For the above reasons, special considerations should be observed when applying microfinance in conflict regions, such as providing services that address the special needs of people during a conflict and its aftermath. The cost of financial services is high in such unsecure environments and needs to be taken into account by governments and development partners when operations are designed and implemented.

[274] Warehouse receipts are documents proving that a certain commodity has been deposited at a warehouse which is usually privately operated. The receipt entitles its holders to sell such a commodity or use it as a collateral for loans. Consequently, the large-scale use of warehouse receipts may have a price smoothing effect.

[275] For example, Equity Bank, Ltd. in Kenya succeeded to increase its operations by outreaching clients using mobile banking.

3. *Innovative financial instruments and challenges to their implementation*

In the past decade, new financial instruments have been used to create virtual stockpiles, ensuring cereals at a certain price without many of the costs associated with physical stockpiles. The most used instruments are forward contracts, futures, options and swaps (see box 5). These methods avoid the high cost of physical stockpiles of perishable materials.

Box 5. Forward contracts, futures, options and swap

Forward contracts allow the seller or buyer of a commodity to set the price of a given quantity in advance through privately negotiated mechanisms. Forward contracts are customized, giving the negotiator flexibility over the quality, quantity and time of the transaction. Various types of forward contracts are discussed. Key among these is the price-to-be-fixed (PTBF) contract, where the seller has the ability to fix the prices at the moment deemed most opportune. Deferred pricing contracts allow the seller to deliver a commodity at one period of time but permit the price to be fixed at a later date. One type of deferred pricing contract is the basis contract, which fixes the basis at the time of delivery, but leaves the futures price open. The hedge-to-arrive contract works in the opposite manner; it fixes the futures price leaving the basis open. Deferred payment contracts allow delivery and pricing to occur at one period of time, but actual payment to take place at a later date. This is especially advantageous for tax purposes. The minimum price contract guarantees a minimum price with an opportunity to participate in future price gains.

Futures contracts are similar to forward contracts but standardized and exchange traded. There are two ways in which they could be used for risk management. In the first mechanism, firms planning to buy or sell in the physical market can instead trade on the commodity exchange. Upon expiration of the contract they would have to either give or take delivery, thus locking in a tentative price. (They are subject to the risk of price movements between the period when the contract is entered and closed). In the second, more commonly used mechanism, the buyer or seller in the physical market takes an opposite position in the futures market. As cash and futures prices move in the same direction, the losses/gains in the physical market get compensated by the gains/losses in the futures position.

Options are a useful price risk management tool for agricultural producers. Their function is similar to insurance. They can limit the option buyer's downside while ensuring gains from any favourable price movements. There are two basic types of options: puts and calls. A put option provides a commodity seller protection from falling prices. In the eventuality of falling prices, the option buyer has the right to sell the commodity at the higher-than-market price. Similarly, a call option provides a commodity buyer with protection from increasing prices. In the eventuality of increasing prices, the option buyer has the right to buy the commodity at the lower-than-market price.

Swaps are multi-period, price-fixing contracts. A commodity swap is an agreement whereby a floating price for a commodity is exchanged for a fixed price for the same commodity over a specified period for a defined volume. The floating price is normally the prevailing market (spot) price for the asset and the fixed price is the price which is negotiated and agreed before the initiation of the swap contract. Swaps are pure financial instruments where no exchange of physical goods takes place. This feature distinguishes swaps from futures and options contracts, where making or taking delivery of the physical commodity is always an option before the agriculturalist.

Source: FAO (2006).

The following challenges apply to financial instruments in the ESCWA region:

(a) Financial instruments require a certain level of education in order to understand and apply them. Farmers in the ESCWA region are often uneducated and unaware of the available financial instruments;

(b) ESCWA member countries lack the essential laws and regulations to apply such instruments;

(c) Farms in the ESCWA region are producing very small quantities compared to the minimum quantity required to buy or sell a financial instrument, thereby imposing a major obstacle for the possibility of farmers to hedge and manage agriculture risks;

(d) Farmers are largely unaware as to how commodity prices are determined in international markets. They are also unable to predict and forecast future prices that are mainly determined on the commodity market;

(e) Owing to the lack of unmanaged risks in commodity prices, the default risk is high in the agricultural sector. This discourages the banking system from providing agriculture loans and setting collateral requirements beyond the abilities of the farmers. This in turn leaves farmers with no or very few means of necessary and vital finance to stay in his farm and to continue production, thereby increasing the risk of farmers defaulting;

(f) In the absence of local and regional future commodity markets, a third party could play the intermediary role for small farmers to hedge their products in international markets where the financial instruments are traded. The government needs to provide such third parties with the possible assistance and facilities to take that role. The third party could be a government agency, an exporter, a local bank or an international bank, among others. While a possible intermediary party between farmers and the international market could be a farmers association, these typically suffer from State control and influence in the ESCWA region, thereby preventing farmers from organizing themselves efficiently and playing this important role.

Recommendations

The recommendations can be summarized as follows:

(a) Governments need to establish the necessary legal and regulatory environments to apply the appropriate financial instruments;

(b) The regional commodity market is not a prerequisite for hedging prices using financial instruments. However, the regional market could help farmers to forecast future regional prices that can differ from the international market prices;

(c) Farmer associations can be very helpful in educating farmers on ways and requirements to finance their businesses and, when these associations are large enough, to negotiate with the right intermediary third party to hedge the local production using the international commodity markets.

4. *Foreign land lease*

In order to secure their long-term food requirements, the countries of the Gulf subregion have negotiated, leased or purchased prime fertile lands in the region as well as in other developing countries. For example, the United Arab Emirates has reportedly leased 375,000 hectares of farmland in northern Sudan, purchased 325,000 hectares in Pakistan and 5000 in Ethiopia, and is currently negotiating with Senegal and Uzbekistan. South Korea and the Sudan signed a lease agreement of almost 700 thousand hectares. Kuwait lent Cambodia $546 million in exchange for a lease to a large area of rice lands. Indonesia might allocate at least 2 million hectares of farmland for joint ventures with Saudi Arabian firms. Moreover, Qatar has invested $2.5 billion in Kenya for 40,000 hectares of agricultural land, and 100,000 hectares in the Philippines; and the Qatar Investment Authority set up a joint fund for agriculture in Vietnam.[276] It is estimated that $20-30 billion a year is spent on leasing land in developing countries, with a total of around 20 million hectares of fertile farm land, which represents almost half the size of all arable land in Europe, being sold or leased in poor developing countries.

Land lease, which some opponents label as “land grab”, is a controversy that the World Bank and the United Nations are trying to regulate by developing codes of conduct for foreign land acquisition. The Government of Saudi Arabia has invested $100 million in Ethiopia to grow rice that will be exported to Saudi Arabia. At the same time, WFP is spending some $166 million to provide essential nutrients for 4.5 million Ethiopians. Other countries receiving food aid while leasing their agriculture land to foreigners

[276] However, land lease deals are not signed only between governments. Also the private sector has become a main actor in such deals some of which have been stricken in the ESCWA region and primarily in Sudan. For a review of all reported deals, please see the IFPRI’s website at www.ifpri,org and World Bank (2010).

include Cambodia, Myanmar, Niger and Tanzania. Governments are leasing land that is supposedly State-owned but which has been farmed by locals for centuries. Madagascar and South Korea were negotiating a deal to lease half the formers arable land for 99 years, with virtually no required taxes or other benefit flowing back to Madagascar or the local communities. The proposed deal fell apart and the angry sentiments contributed to the overthrow of the Government.

If not properly managed, serious risks are associated with such deals given that local populations could perceive them as a form of "neo-colonialism" resulting from inequality in bargaining power that can be further exacerbated when the smallholders whose land is being leased out has been used under the local customary tenure system without having any formal title. In this case the poor run the risk of being kicked out of the land that they have been using often for decades or even generations to accommodate the new investor's needs without prior consultation or compensation. This typically may result in further jeopardizing the welfare of the poor by depriving them of the main source of income and safety net functions that land and the natural resources attached to it normally fulfill. In addition, governments of some developing countries are sometimes too weak to be able to honour or enforce the deals. Introducing a modern farming system also means managing the socio-economic transition for traditional farmers who need to be reintegrated in the new production system. Finally, there is a potential threat that local ecosystems and biodiversity could be damaged if a proper monitoring system is not in place, including the use of chemical fertilizers and production practices that are typically associated with land leases. As a result, many attempts to jumpstart agricultural production through large-scale farming were unsuccessful due long-standing neglect of infrastructure, institutions, and technology with many of these deals never really implemented or, if implemented, carrying very limited job creation and net investment as confirmed by the 2010 World Bank survey.

Land lease deals are often undisclosed and in the past little information has been released on the exact terms and conditions. This aspect is very important in order to assess the economic implications of the deals, with the following information needed:

(a) Whether these deals specify the consequence of any possible moral hazard whereby the government of the host nation would be unable to deliver the product for any reason, such as shortage of production or possible resistance of farmers to abide by the terms of the deal;

(b) Whether the anticipated production in the host country will take into consideration the environmental and ecological factors that could considerably increase the cost of production when factoring in such negative externalities;

(c) Water resource scarcity can sometimes represent a trade-off between large land lease investment and local communities' access to water. These types of trade-offs need to be clearly addressed before any land lease contract is signed. If not properly designed, the leasing companies might not bear such costs could end up being paid in one way or another by the local community;[277]

(d) The deals often do not disclose where the returns are to be invested. It is very important to secure the agreement of the local population and farmers in the deals through more transparency and by disseminating the benefits of such deals. The rural communities should be part of livelihood development programmes that would contribute to infrastructure investments, health care, education and other fundamental services that could be linked to such deals.

The drafting of a code of conduct for land lease agreements has been recently discussed between FAO, IFAD, UNCTAD, and the World Bank. Key elements of such a code of conduct should invariably include the following:

[277] Alternatively, the host country could resort to more transparent procedures, such as advertising their decision to lease agricultural lands and organize competitive bids.

(a) Transparency and participation in negotiations;

(b) Close vertical and horizontal coordination of all national ministries and institutions involved;

(c) Ensure proper due diligence before any deal clarifying land rights, any compensation cost, infrastructure requirements;

(d) Respect for existing customary rights to land and natural resources;

(e) Importance of addressing distributional issues upfront with clearly measurable benefits for local communities deriving from large-scale investment;

(f) Environmental sustainability;

(g) Priority of national food security vis-à-vis interests of foreign investors in times of an acute national food crisis.

The code of conduct could be a first step towards a binding global agreement that could be enforced everywhere both in the host country as well as in the country of origin of the investor.

However, land lease is not the only solution to the eager need of foreign agricultural investment and productivity raise that characterize many countries in the ESCWA region particularly most of the conflict-affected ones. For instance, FAO has recently advised investors to support joint ventures with local farmers in poor countries rather than lease or buy land outright so that farmers can remain in control of their land and the host country does not run the risk of compromising its food security. Arrangements such as contract farming and out-grower schemes involving existing small farmers may enable them to benefit from investment. Such arrangements typically provide farmers with inputs, technical assistance, and credit by investors in return of their commitment to sell part or all of their production, thereby creating a win-win situation for both local farmers and foreign investors.

5. *Regional guarantee funds*

Another way to stabilize a country's production capacity and increase food availability could be by establishing an ad hoc regional guarantee fund. The guarantee scheme could include the following parties: the government that needs to secure its long-term food supply can act as a guarantor; the investor looking for profit in the risky agricultural sector; the lender that is hesitant to provide credit to agricultural sector given the high default risk; and the host country where investment would take place. In case of an investor default, the guarantor (the government) could buy the defaulted loan from the local, regional or international banking system. Alternatively, the guarantor government could encourage the private sector to invest in agricultural production in another ESCWA member country through a simple guarantee against expropriation/ nationalization arising from conflicts or civil unrest. The guarantee could be particularly addressed to joint ventures with local farmers or processors without compromising the host country's food security while giving the private sector room to invest and thrive.

In addition to the guarantee facility provided by the Islamic Development Bank, a regional investment guarantee scheme has already been established and has been in operation since the mid-1970s, namely, the Arab Investment and Export Credit Guarantee Corporation (Dhaman).[278] However, its mandate is quite broad and does not particularly target the agricultural sector, which constitutes only about 5 per cent of

[278] Dhaman provides guarantee coverage to Arab and non-Arab investments in its member countries against non-commercial risks, and to Arab export credit, against commercial and non-commercial risks. Should any of the covered risks occur, the percentage of compensation reaches 90 per cent. According to Dhaman's 2009 Annual Report, the Sudan is the host country receiving the largest volume of investment guarantee operations, followed by the Syrian Arab Republic and Yemen. Iraq and Palestine do not seem to host any of these operations.

export credit insurance activities. Host countries, regional and international financial institutions are hesitant to invest in the agriculture sector owing to its inherently high risk. With a government-sponsored investment guarantee fund, the investor could manage and reduce the associated risks and would be more encouraged to invest in the agricultural sector of poor countries by leasing, developing and farming agricultural lands in these countries. In this kind of scheme, the host country would have more capital inflow funds that could be used to finance development programmes in production areas to benefit local communities and lower the hostility against leasing agricultural lands to foreigners. By leasing the land to the private sector rather than the public sector, the host country could face less domestic hostilities and, consequently, could enforce the contract more easily and effectively.

The guarantee fund could meet the interest of all parties involved, with the following provisos: (a) the banking system could expand its lending business in a secure way; (b) the investor was covered in the case of default; (c) the host country was receiving sufficient FDI and capital inflow to lower unemployment and finance development programmes; and (d) the involvement of the private sector was encouraged and could ensure more market efficiencies.

Recommendations

For better application of the guarantee fund, the following need to be observed:

(a) The guarantee fund needs to be administered by an experienced regional or international institution that can apply clear and transparent international standards;

(b) The investor should not be guaranteed fully; a certain percentage of the investment should be at risk in order to offset any possible moral hazard practices;

(c) The banking system should also have a certain percentage of the investment at risk to offset any possible adverse selection;

(d) Local communities need to be consulted before any FDI in a populated agricultural area is undertaken. Moreover, in cases of a large-scale investment, the investor needs to invest part of the returns in development projects in the rural areas where production takes place, thereby helping potentially disenfranchised local communities to enhance their livelihoods.

IV. RECOMMENDATIONS FOR POLICY ACTIONS IN THE ESCWA REGION

Food security can serve as a bridge to help build better relations between the countries of the ESCWA region. However, the structure of societies and economies in conflict-affected countries combined with protracted external influences creates conditions for grievance-based conflicts. While unequal access to resources can be a natural consequence of market-driven economic processes, its implications for security emerge when inequality aligns with socio-political cleavages. A careful assessment of this alignment is therefore necessary in designing and implementing policies for growth and poverty reduction. The regimes in conflict-affected countries as well as in many other parts of the ESCWA region have not been able to develop solid economic and social platforms, and this remains a challenge in this part of the world also in the light of demographic trends and future stagnating oil revenues. Ensuring modern and diversified economies, more transparent and accountable systems, together with closer regional cooperation remains the key to preventing and mitigating new conflicts.

Some suggested actions are set forth below. They are divided based on the time horizon of their implementation, and a specific sub-set is specifically addressed to the conflict-affected countries in the region.

A. SHORT-TERM RECOMMENDATIONS

In the light of the regional integration deficits, political efforts towards greater regional integration can have a great leverage on food security. Specific short-term measures that can be recommended to ESCWA member countries include the following:

(a) To intensify research on the relationship between trade development and food security, initiate dialogue among ESCWA member countries regarding opportunities for regional trade integration and facilitate the formulation of a common roadmap towards greater intraregional integration;

(b) To develop joint programmes with international organizations specialized in trade development, especially the World Trade Organization (WTO) and the United Nations Conference on Trade and Development (UNCTAD);

(c) To conduct cost-benefit studies regarding the integration of the agricultural markets of the Arab region and identify major impediments to agricultural trade development. There is a need to understand whether these impediments relate to access to markets, access to capital, unclear trade legislation or some other issue;

(d) Social protection policies are crucial in tackling vulnerability and capacity of resilience of the population affected by food insecurity. Lessons learned in five decades show that cash and in-kind transfers can be helpful depending on the state of development of local markets. Conditional transfers, such as public work programmes and food for education and self-targeting, are particularly suitable in conflict-affected countries given their respective developmental impact and light administrative burden. The countries of the region need to establish forums where experiences in the use of these policies can be openly discussed and exchanged;

(e) To assess public perceptions towards the creation of a common agricultural policy (CAP) and create awareness of its benefits. While Europe's CAP has turned into a problematic global economic construct, there are some important lessons to learn from the kind of political will that accompanied it and its recent policies in favour of shifting subsidies from production towards sustainable development attributes (decoupling);

(f) To strengthen nutrition and family-planning programmes, particularly in areas affected by high concentrations of poverty, in order to raise awareness of the risks of malnutrition practices, early maternity and high fertility rates.

B. MEDIUM-TERM RECOMMENDATIONS

Medium-term recommendations can be summarized as follows:

(a) To explore opportunities aimed at initiating public investments in technological and transportation infrastructure, thereby linking better economic actors to markets across borders. Private investment and economic activity are more likely to occur when public investment takes the lead. In many places, roads, railways, telecommunications, electricity infrastructures and logistic services are in strong need of modernization, and offer many opportunities for privatization and public-private partnerships;

(b) To increase agricultural land area in the Sudan by attracting joint ventures and FDI wherever local communities are uninterested or unable to exploit it productively. The establishment of a regional guarantee fund for regional FDIs can help in this direction;

(c) To improve efficiency and effectiveness of safety net programmes through better targeting and quality of data collection in order to set up a regular monitoring and evaluation (M and E) function as a cornerstone in such programmes;

(d) To provide financial services in rural areas in a more comprehensive manner by interlinking complementary services, such as credit and crop insurance, and by creating farmer associations in order to address limited information and agency problems. While agricultural insurance and finance is a promising area of development in this region, a precondition for their development is to create an enabling business environment where contracts can be enforced and property rights are clear;

(e) To promote a more effective and regional agricultural R and D agenda to tap economies of scale in the research of common problems affecting food security, such as water scarcity and climate change;

(f) To promote regional trade integration, which can help to unleash the country-based comparative advantages, particularly of those countries where agriculture constitutes a large share of GDP and labour force;

(g) To build a knowledge hub in support of a regional food security coalition aimed, among others, at the following:[279]

(i) Developing indicators to guide decision-making and to track progress in improving food security at the national and regional levels, and suggesting appropriate preemptive and remedial action;

(ii) Incorporating an early warning and response system for timely prediction of major food shortages, as well as rapid sharing of information, technology and mitigation expertise;

(iii) Hosting a regional database on food security, including map food insecurity hotspots to help build national systems and technical capacity for identifying food insecurity hotspots and food insecure groups, as well as tracking, collecting, analysing and disseminating statistics at national and local levels;[280]

(iv) Creating a regional pool of agriculture extension experts.

[279] Regional development agencies could work closely with WFP and FAO in forming a regional information and knowledge hub on food security.

[280] These systems should include vulnerability mapping that combines information on food security statistics with other socio-economic data. They should also form the bases of early warning mechanisms for food security.

C. RECOMMENDATIONS FOR CONFLICT-AFFECTED COUNTRIES

Recommendations for conflict-affected countries and territories can be summarized as follows:

(a) Food insecurity in conflict-affected countries is particularly affected in the short term by poor nutrition and health-care practices. Improvements in this area can provide immediate and sizable returns upon the condition that government commitment and capacity is taken into due consideration;

(b) Food insecurity in conflict-affected countries is particularly affected in the long term by low agricultural productivity, difficult market-access situations, little fiscal capacity and poor market development. However, there is no one-size-fits-all recommendation given that every country is different;

(c) Agriculture in these countries is trapped in low value-added activities and mainly characterized by low productivity farming. It is therefore vital to increase rain-fed agriculture, such as the production of pulses, millets and, where water resources allow it (for example in Iraq) fruit and vegetables; and to promote market linkages. Addressing all these constraints will require investments in research in drought-resistant crops and in extension services; rationalization of taxes and fees; reforms in the management of the irrigation schemes in favour of water users associations following the example of Egypt; and policy reforms of land, export licenses and monopolies to make agricultural markets work more efficiently;

(d) Aid interventions need to establish a nexus and coordination mechanism in the transition from the humanitarian phase to the recovery and development phase and, consequently, between the agencies specialized in economic development, humanitarian and security issues in order to better address agro-pastoral livelihoods at an early stage and particularly in protracted conflict settings. Aid agencies must ensure that food aid closely complements other activities that are consistently elaborated within national and local poverty reduction and recovery strategies;

(e) Donors need to move towards multi-year budgeting for their transfers to the relief agencies working in a conflict-affected country so that they can improve their planning and increase efficiency gains in their operations;

(f) National poverty reduction strategy programmes (PRSPs) and SWAPs need to mainstream food security and be drafted in a participative manner, be gender-sensitive and be implemented such that nutrition, agricultural and public investment policies are fundamental tools to address poverty in rural areas;

(g) Closer regional trade integration, better business environment and more competition in logistic services can increase the peace dividend on these countries;

(h) With regard to Palestine, the biggest obstacle is occupation and externally imposed factor immobility. ESCWA needs to research these obstacles in more detail, possibly in cooperation with the UNCTAD Assistance to the Palestinian People Unit (APPU) and the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA);

(i) Iraq still suffers from both internal and international conflict, and the absence of broad-based economic opportunities that keep the opportunity costs of engaging in conflict relatively low. War and sanctions have isolated Iraq both internationally and within the region. Greater regional integration efforts in general through, for example, regionally funded highways, railways, telecommunications, electricity, water and/or sewage system projects are therefore particularly promising for a country like Iraq, which is still substantially affected by the destruction of physical infrastructure. ESCWA could contribute in this context by initiating the dialogue and conducting basic relevant research;

(j) Conflict in Yemen is mainly of a domestic nature, albeit with some neighbouring spillover, and coincides with extreme poverty, shortages of natural resources, limited fiscal capacity and fast population

growth. Yemen is faced with a poverty trap of low income, low savings and low investment, which again cause low income. Qat as a recreational drug is a considerable socio-economic problem, whose consumption comes at a high costs, both socially and economically. In order to break this vicious cycle, the gender aspect is particularly important. A substantial reduction of fertility rates can lead to a much greater empowerment of women, which in turn leads to economically more rational household decisions. ESCWA could cooperate in this context, particularly with IFAD and FAO, and explore strategies to move away from qat in agricultural production towards crops with higher socio-economic dividends;

(k) The Sudan has the most development promise with the reduction of the conflict, which is mainly domestic with some spillovers into neighbouring countries. The Sudan's development potential needs to be utilized in order to dissolve the conflict. The combination of huge amounts of unexploited arable land combined with regional development projects should show some considerable promise. ESCWA could become involved in developing socio-economic impact studies for such rural development programmes, and coordinate with local governments and such international development agencies as the World Bank, FAO and IFAD;

(l) Public service delivery and fiscal decentralization are currently central in the economic policy debate in conflict-affected countries (for instance, in the Sudan). A thorough understanding of its benefits, implications and effective implementation of such complex agenda should be promoted through ad hoc forums and technical assistance. ESCWA together with other development partners could help move this debate forward.

Annex I

RESEARCH AND DEVELOPMENT FUNDS/INSTITUTIONS

R and D funds/institutions	Location	Mandate	Budget and main focus	Type
Arab Bank for Economic Development in Africa	Khartoum, Sudan	The Bank is a financial institution funded by the Governments of the Member States of the League of Arab States which signed the Establishing Agreement (18th. February, 1974). Bank's mandate is assist in financing economic development in non-Arab African countries and to stimulate the contribution of Arab capital to African development. In addition to helping provide the technical assistance required for the development of Africa.	USD$ 190.0 million distributed on projects covering infrastructure, agriculture and rural development, the social sector, the energy sector and the private sector. As for agriculture and rural development sector due to its important role in achieving food security and improving the standards of living of the beneficiaries, an allocation of $ 43.2 million (about 23.58 per cent of total loan commitments) was made to this sector which includes land reclamation, irrigation, and natural resources.	BADEA is a financial institution owned by eighteen Arab countries members of the League of Arab States (LAS). The Bank is an independent international institution enjoying full international legal status and complete autonomy in administrative and financial matters. It is governed by the provisions of its Establishing Agreement and the principles of international law.
The Kuwait Fund for Arab and Economic Development (KFAED)	Kuwait	Established in 1961, the Fund aims to assist Arab and other developing countries in developing their economies by making loans and providing guarantees, providing grants and technical assistance, and contributing to capital stocks of international and regional development finance institutions and other development institutions. The Fund's operations are focused primarily on the sectors of agriculture and irrigation, transport and communications, energy, industry, water and sewage	The authorized and paid up capital as of 31/3/2009 is 2000 million KD. During the fiscal year 2008/2009, the Fund financed 18 projects with total loan commitments of about KD 197 million covering energy, transport, industry & agriculture in addition to water and sewerage and other sectors. As to the sectoral distribution of the total loans committed, the transportation and communication sector ranks first with a share of 35.7 per cent, then energy sector 24.6 per cent, agriculture sector 12.6 per cent, industrial sector 8.1 per cent, water and sewerage sector 9.6 per cent, Development Banks 3.2 per cent, Communications Sector 2.4 per cent, Social Sector 2.2 per cent and then other sectors 0.9 per cent.	The Kuwait Fund for Arab and Economic Development (KFAED) was established on December 31, 1961, as a mechanism through which the State of Kuwait could extend loans and aid to Arab and other developing countries.

R and D funds/institutions	Location	Mandate	Budget and main focus	Type
Abu Dhabi Fund for Development	Abu Dhabi, United Arab Emirates	It was established in 1971 to help developing countries achieve sustainable economic growth and reduce poverty by providing financial resources, forging partnerships in the public and private sectors. Sectors included infrastructure, agriculture, electricity and water, transportation, industry, social & healthcare services, tourism & hospitality, telecommunications, and studies & technical support	ADFD grants and loans, valued at AED 12.5 billion (US$ 3.542 billion), have funded 199 projects in 53 developing countries. In addition, ADFD has set up 12 joint ventures that operate in various sectors in different geographical locations. ADFD also manages loans and grants initiated by Abu Dhabi government valued at AED10 billion	The Fund is an autonomous institution owned by the government of Abu Dhabi.
Islamic Development Bank (IDB)	Saudi Arabia	Established in 1973, the Bank's overall objectives is fostering economic development and social progress, it finances productive projects and programmes in both public and private sectors in member countries. IDB invests in economic and social infrastructure projects, provides technical assistance to member countries and assists in the promotion of foreign trade, especially capital goods.	The Board of Governors of the IDB in 2005 it decided to increase the authorized capital stock of IDB by 15 billion Islamic Dinars to become 30 billion Islamic Dinars and the subscribed capital by 6.9 billion Islamic Dinars to become 15 billion Islamic Dinars. {A unit of account of IDB which is equivalent to one Special Drawing Right (SDR) of the International Monetary Fund (IMF)}.	The Islamic Development Bank is an international financial institution established in pursuance of the Declaration of Intent issued by the Conference of Finance Ministers of Muslim Countries held in Jeddah in Dhul Q'adah 1393H.
IFAD: Enabling Poor rural People to overcome poverty	Rome, Italy	The International Fund for Agricultural Development (IFAD), a specialized agency of the United Nations, was established as an international financial institution in 1977 as one of the major outcomes of the 1974 World Food Conference. Through low-interest loans and grants, IFAD works with governments to develop and finance programmes and projects that enable rural poor people to overcome poverty themselves.	124.04 Millions of United States dollars for 2010	International financial institution

R and D funds/institutions	Location	Mandate	Budget and main focus	Type
Arab Fund for Economic and Social Development	Kuwait	The Arab Fund for Economic and Social Development (the Arab Fund) founded in 1974 focuses on funding economic and social development by financing public and private investment projects and providing grants and expertise. It pays close attention to social development and reducing poverty by financing projects covering health care, education, drinking water, rural development, and social welfare.	KD 2 billion	An Arab regional financial institution

Annex II

FOOD SECURITY QUESTIONNAIRE

ESCWA
Study on Food Security

Questionnaire

PART 1: ASSESSING AND UNDERSTANDING FOOD INSECURITY

Question1:
1.1 What kind of data do you have on food insecurity? Who is the responsible agency? How often do you update these data?

Data	Responsible agency	Frequency of data collection (in months)
Demographic data		
Poverty (by region including rural- urban)		
Import/exp of food		
Food market prices and structures (by category)		
Weather database		
Hunger/Food Insecurity		
Agriculture production capacity by main staple and cash crops		
Household surveys		
Economic diversification		
Early Warning System		
Other (specify)		

Question 2:
How have food insecure and vulnerable population changed over the last five years?

	2005	2007	2009
Food insecure (% of tot pop) Definition and source of data:			
Vulnerable (% of tot pp) Definition and source of data:			

Note: answer should make reference to definition of the insecure and vulnerable and to existing data.

Question 3:
What are usual types, causes and specific reasons of a typical food security crisis in your country? Please choose up to three specific reasons.

Type	Cause	Specific reasons
Drop of production	Weather, natural disasters, lack of inputs, etc (specify)	Droughts, floods, reasons for lack of inputs, etc (specify)
Drop of access to food	Drop in income, pricesurge, natural disasters, etc (specify)	Reasons for drop of income, price surge, etc (specify)
Political instability	Internal conflict, regional conflicts, occupation, etc (specify)	
Other (specify)		

Question 4:
What were the main consequences of the last food crisis? Please choose up to three consequences.

- Political instability
- Severe inflation
- Substantial increase of poverty
- Substantial increase in hunger
- Increase in child malnutrition and mortality rates
- Pressure on social safety nets
- High fiscal deficit
- Deterioration of the Balance of Payment
- Food became an important factor in the political agenda
- New policies: food export restrictions, price controls, subsidies, etc.
- Structural economic reforms have to be put on hold
- Other (specify)

Note: please provide data where relevant.

Question 5:
Please rank the three groups usually most affected by a crisis

Group	Rank
Elderly	
Single mother	
Rural poor	
Urban poor	
Women in general	
Children in general	
Orphans	
Disabled	
Specific region	
Other (please specify)	

Question 6:
Please assess the vulnerability of each potentially food insecure groups within the society compared to 2007. Please tick the relevant boxes.

	2007			2009		
Group	Not vulnerable	Somewhat vulnerable	Severely vulnerable	Not vulnerable	Somewhat vulnerable	Severely vulnerable
Elderly						
Single mother						
Rural poor						
Urban poor						
Women						
Children						
Other (please specify)						

Note: answer should make reference to definition of the vulnerable and to existing data where possible.

Question 7:
What coping strategies can be observed at the household level? Please tick the relevant boxes.

	Not common	Used by some	Very common
Skipping meals			
Accumulating debt			
Selling off assets			
Cutting expenditures for health			
Cutting expenditures for education			
Resorting to crime			
Disputes over resources			
Child labour			
Other (please specify)			

Question 8:
Following is a list of threats to food security. Please indicate how severe you perceive each threat in your country. Please tick the relevant boxes.

	Not severe	Somewhat severe	Very severe
Climate change and droughts			
Decline in remittances			
Population growth			
Reliance of food imports financed by oil revenues			
Biofuel and ethanol			
Rising international food prices			
Wrong national macroeconomic policies (trade restrictions, etc.)			
Current economic crisis			
Commodity price speculation			
Conflict/occupation			
External intervention			
Other (specify)			

Question 9:
If the food crisis persists, or returns, how do you evaluate the following possible consequences. Please tick the relevant boxes.

	Not relevant	Somewhat relevant	Very relevant
Political instability			
Severe inflation			
Substantial increase of poverty			
Substantial increase in hunger			
Increase in child malnutrition and mortality rates			
More pressure on social safety nets			
High fiscal deficit			
Deterioration of the Balance of Payment			
Structural economic reforms have to be put on hold			
Other (specify)			

PART 2: RESPONDING TO FOOD INSECURITY

Question 10:
Below are possible remedies that countries may have adopted to cushion against the food crisis. Which of these policies has your country introduced? Please also indicate how relevant you would find each policy in your country. Please tick the relevant boxes.

	Specific type	Policy implemented	Not relevant	Somewhat relevant	Very relevant
Increase of salaries and/or pensions					
Tax cuts on food items					
Price controls					
Trade-related					
Diversification of livelihoods/sources of income					
National Food Security Strategy					
Integrated natural resources management					
Strengthening safety nets					
Crop production insurance					
Financial hedging instruments					
Establish food security and nutrition baselines and monitoring systems					
Early Warning System					
Subsidies to producers					
Increase food stocks					
Public investment in agriculture					
Long-term land lease agreements with other countries					
Diversifying the economy					
Family planning					
Other (specify)					

Question 11:
How big was the fiscal burden directly associated with food security expenditures (i.e. for actions mentioned in the previous question) in terms of total government expenditures in 2007, 2008 and 2009?

2007	2008	2009	Planned 2010	Projected 2011

Question 12:
Which international organizations/donors did you ask for assistance in formulating your response to food insecurity? What type of assistance did you request?

Organization	Type of assistance	Sector

Note: type of assistance can comprise humanitarian assistance, loans, grants, technical assistance/capacity building, policy dialogue. Sector can be agriculture, private sector dev., infrastructure, trade, etc.

Question 13:
The table below lists capacity-building programmes, where ESCWA can provide technical assistance. Column one names the programme, column two one major link to food security. Please rate your interest in each programme.

Programme	Link to food security	Not interested	Somewhat interested	Very interested
Energy	… affects production cost			
Water	… affects productivity on supply side			
Conflict issues	… affects market and food access			
Finance	… affects finance of input factors			
Social development	… affects market and food access			
Public administration modernization	…strategic planning, tailoring capacity building schemes for concerned public servants			
Public financial management	…effective budget formulation and execution in line with a country's development priorities			
Transport	… affects production cost			
Trade	… affects market and food access			
Gender	… affects productivity on demand side			
Information and communication	… affects productivity on supply side			
Statistics	… affect social safety net planning			
Productive sectors	… affect productivity on demand side			
Other (specify)				

Question 14:
What is the size of the total social policy in nominal terms and in percentage of public budget?

	2007	2008	2009	Planned 2010	Projected 2011
Cost (in local currency)					
% of public budget					

Note: social policy comprises health, education, housing, social protection (including all kinds of social transfers and safety nets).

Question 15:
What kind of social assistance programmes do you have in place?

Programme	Cost (in local currency)	Coverage (no. of Beneficiaries)	Targeting errors
School feeding			
Food vouchers			
Cash transfers			
Work for food			
In-kind food transfers			
Social pension schemes			
Subsidized health care			
Other (please specify)			

Question 16:
What kind of programmes does your government provide to the agricultural sector?

Programme	Cost (in local currency)	Coverage (no. of beneficiaries)
Guaranteed prices		
Funding for R and D		
Subsidized inputs		
Rural infrastructure		
Subsidized lending		
Matching grants		
Extension services		
Training in rural areas		
Other (please specify)		

Question 17:
What is the size of public budget relative to GDP and what are its main revenue sources in the years indicated below?

Budget revenues	% of GDP				
	2005	2007	2009	Planned 2010	Projected 2011
Direct Taxation					
Indirect Taxation					
Sales of assets					
Oil Revenues					
Other (specify)					

PART 3: ASSESSING COOPERATION

Question 18:
In developing national and regional ownerships of solutions to the food crisis, dialog with international and regional stakeholders is necessary. How effective would you rate the dialog with these organizations?

Very poor	Poor	Satisfactory	Very satisfactory

Note: the question can be elaborated in more depth in a face-to-face interview.

Please explain your evaluation.

_____
_____
_____
_____

Question 19:
How much do you agree with the following statements about donors and relevant international agencies in the field of food security?

	Strongly Disagree	Disagree	Agree	Strongly Agree
The work of donors and international agencies is difficult to overview				
There is a duplication of efforts				
No clear vision and synergy of work exist				
Absence of homegrown solutions				
Donor-government dialog and information exchange is good				
Donor activity strengthens the capacity of the government				
Other (specify)				

Note: this question includes also non-United Nations organizations (i.e. EU, Islamic Dev Bank, bilateral donors, etc.).

Question 20:
How do you evaluate the coordination among national governments in the ESCWA region with respect to the food crisis?

Very poor	Poor	Satisfactory	Very satisfactory

Please explain your evaluation.

_____
_____
_____
_____

Question 21:
Below are various ideas for which ESCWA could initiate dialog, conduct research, and give policy advice at a regional level. How much would you be interested in each programme?

	Not interested	Somewhat interested	Very interested
A regional agricultural development fund			
A regional infrastructure development fund			
A regional social cohesion fund			
A regional insurance fund/hedge funds			
A regionally coordinated purchasing mechanism			
A regional Early Warning System			
A regional Food Response Strategy			
Other (specify)			

Question 22:
Do you believe that handing over some specific national capacities to regional supranational organizations could help make the fight against food insecurity more effective?

Not at all	Somewhat important	Very important

Question 23:
Below is a list of reasons that may explain why ESCWA member countries have comparatively weak supranational institutions. How relevant is each argument from your perspective?

	Not relevant	Somewhat relevant	Very relevant
Non compatible production profiles			
History of inward orientation			
Social conflict and geopolitical instability			
Lack of political will			
Uncertain financing			
Other (specify)			

Question 24:
Can you propose actions to strengthen such regional/supranational initiatives?

_____

_____

_____

Question 25:
A final open question to give your institution the freedom to add what they believe is relevant to the issue of food security and was missed above.

_____

_____

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